

**REQUEST FOR PROPOSALS FOR
POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL**

Proposal Number: 2025-03
Proposal Due: March 14, 2025 at 4 PM EST
Proposal Opening: March 17, 2025 at 7 PM EST
Proposal Opening Place: Killingworth Town Hall

The Town of Killingworth will receive sealed bids for services associated with the supply, installation, and start-up of a Point-of-Entry Treatment (POET) System including the supply and installation of the associated water conveyance piping within the Killingworth Elementary School located at 340 Route 81 (Higganum Road) in Killingworth, CT until 4 PM EST on **March 14, 2025**. Proposals will be opened, at least 30 days after publication in the Hartford Courant. Proposals will be opened in public and read aloud at the **March 17, 2025**, Board of Selectmen’s meeting at 7:00 p.m.

A mandatory site visit/pre-bid will be held at Killingworth Elementary School on February 27, 2025, at 4 PM. Please consult the Town website for confirmation of time and date.

One (1) original and three (3) copies of sealed proposals must be received in the Killingworth Town Hall, Selectmen’s Office, 323 Route 81, Killingworth, CT 06419 by the date and time noted above. The Town of Killingworth (the “Town”) will not accept submissions by e-mail or by fax. The Town will reject proposals received after the date and time noted above.

Proposal documents may found on the Town’s website, www.townofkillingworth.com, under “Bids and RFPs,” or may be obtained from the Selectmen’s Office, Killingworth Town Hall, 323 Route 81, Killingworth CT 06419 during the hours of 8:00 AM – 4:00 PM Monday through Wednesday, 8:00 AM – 7:00 PM on Thursday, or 8:00 AM until noon on Friday for a non-refundable fee of **\$100**. This RFP will be published in the Hartford Courant.

Each proposer is responsible for checking the Town’s website to determine if the Town has issued any addenda (up to 5 business days prior to bid opening) and, if so, to complete its proposal in accordance with the RFP as modified by the addenda.

Proposals must be held firm and cannot be withdrawn for sixty (60) calendar days after the opening date. If the contractors, subcontractor, work exceeds \$500,000, the subcontractor must be prequalified by the Department of Administrative Services (DAS) per CGS Section 4b-91(j).

The Town reserves the rights to amend or terminate this Request for Proposals, accept all or any part of a proposal, reject all proposals, waive any informalities or non-material deficiencies in a proposal, and award the proposal to the proposer that, in the Town’s judgment, will be in the Town’s best interests.

The following documents must be completed and returned in the Bid Proposal:

Proposal Form

Proposer's Legal Status Disclosure

Proposer's Certification Concerning Equal Employment Opportunities and Affirmative Action Policy

Proposer's Non-Collusion Affidavit

Proposer's Statement of References

Preliminary Progress Schedule

Bid Form

Bid Bond

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Executive Order 12549

CT General Statutes 4a-60

Clean Water Memo 2019-003

UV Guidelines for Groundwater Public Water Systems

TOWN OF KILLINGWORTH, CONNECTICUT

Proposal Number: 2025-03

STANDARD INSTRUCTIONS TO PROPOSERS

1. INTRODUCTION

The Town of Killingworth (the "Town") is soliciting proposals for the supply, installation, and start-up of a Point-of-Entry Treatment (POET) System including all associated piping within the Killingworth Elementary School located at 340 Route 81 (Higganum Road) in Killingworth, CT. This RFP is not a contract offer, and no contract will exist unless and until a written contract is signed by the Town and the successful proposer. Legal Notice, Attachment A.

Interested parties should submit a proposal in accordance with the requirements and directions contained in this RFP. Proposers are prohibited from contacting any Town employee, officer or official concerning this RFP, except as set forth in Section 6, below. A proposer's failure to comply with this requirement may result in disqualification.

Proposal must include a statement as to the bidder's qualifications based upon experience of completing similar projects, financial ability to complete the project and appropriate references.

If there are any conflicts between the provisions of these Standard Instructions to Proposers and any other documents comprising this RFP, these Standard Instructions to Proposers shall prevail.

2. RIGHT TO AMEND OR TERMINATE THE RFP OR CONTRACT

The Town may, before or after proposal opening and in its sole discretion, clarify, modify, amend or terminate this RFP if the Town determines it is in the Town's best interest. Any such action shall be affected by a posting on the Town's website, www.townofkillingworth.com. Each proposer is responsible for checking the Town's website to determine if the Town has issued any addenda and, if so, to complete its proposal in accordance with the RFP as modified by the addenda. If this RFP provides for a multi-year agreement, the Town also reserves the right to terminate the Contract at the end of the last fiscal year for which funds have been appropriated, and the Town shall have no obligation or liability to the successful proposer for any unfunded year or years.

3. KEY DATES

- Proposal Due Date: **March 14, 2025, at 4 PM EST**, Selectmen's Office, 323 Route 81, Killingworth, CT 06419
- **Mandatory Site Visit: February 27, 2025, at 4 AM EST at Killingworth Elementary School**
- Proposal Opening: March 17, 2025, 7:00 PM EST, Selectmen's Office, Killingworth, CT
- Interviews of one or more quantified proposers (if deemed necessary) will be conducted after the opening date
- Anticipated Preliminary Notice of Award: **2 weeks after opening**
- Anticipated Contract Execution: **2 weeks after Notice of Award**
- Anticipated start/completion - Summer 2025 (school's summer recess schedule)

4. OBTAINING THE RFP

All documents that are a part of this RFP may be available on the Town's website www.townofkillingworth.com

for a non-refundable payment of \$100 or from the Selectman's Office, 323 Route 81, Killingworth, CT 06419 during the hours of 8:00 AM and 4:00 PM, Monday through Wednesday, Thursday until 7:00 PM, or Friday before noon.

5. PROPOSAL SUBMISSION INSTRUCTIONS

Proposals must be received in the Killingworth Town Hall, Office of the First Selectman, 323 Route 81, Killingworth, CT 06419, prior to the date and time indicated above. Postmarks prior to this date and time do **NOT** satisfy this condition. The Town will not accept submissions by e-mail or fax. Proposers are solely responsible for ensuring timely delivery. The Town will **NOT** accept late proposals.

One (1) original and three (3) copies of all proposal documents must be submitted in sealed, opaque envelopes clearly labeled with the proposer's name, the proposer's address, the words "**PROPOSAL DOCUMENTS,**" and the title "**POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL, PROPOSAL NUMBER 2025 -03**". The Town may decline to accept proposals submitted in unmarked envelopes that the Town opens in its normal course of business. The Town may, but shall not be required to, return such proposal documents and inform the proposer that the proposal documents may be resubmitted in a sealed envelope properly marked as described above.

Proposal prices must be submitted on the Proposal Form included in B in this RFP. All blank spaces for proposal prices must be completed in ink or be typewritten; proposal prices must be stated in both words and figures. The person signing the Proposal Form must initial any errors, alterations or corrections on that form. Ditto marks or words such as "SAME" shall not be used in the Proposal Form.

All proposals are subject to meeting subcontracting Minority and Women's Business Enterprise (MBE/WBE) goal conditions and subject to the Use of American Iron and Steel (AIS) requirements.

Proposals may be withdrawn personally or in writing provided that the Town receives the withdrawal prior to the time and date the proposals are scheduled to be opened. Proposals are considered valid, and may not be withdrawn, cancelled or modified, for sixty (60) days after the opening date, to give the Town sufficient time to review the proposals, investigate the proposers' qualifications, secure any required municipal approvals, and execute a binding contract with the successful proposer.

An authorized person representing the legal entity of the proposer must sign the Proposal Form and all other forms included in this RFP (Attachment E).

6. QUESTIONS AND AMENDMENTS

Questions concerning **the process and procedures applicable to this RFP**, or concerning this RFP's **specifications** (Attachment C) are to be submitted **in writing** (including by e-mail or fax) and directed **only to:**

Name: Elizabeth Disbrow, Selectmen's office
E-mail: edisbrow@townofkillingworth.com
Fax: (860) 663-3305

Proposers are prohibited from contacting any other Town employee, officer or official concerning this RFP. A proposer's failure to comply with this requirement may result in disqualification.

The appropriate Town representative listed above must receive any questions from proposers **no later than seven (7) business days before the proposal opening date**. That representative will confirm receipt of a proposer's questions by e-mail. The Town will answer all written questions by issuing one or more addenda, which shall be a part of this RFP and the resulting Contract, containing all questions received as provided for above and decisions regarding same.

At least four (4) calendar days prior to proposal opening, the Town will post any addenda on the Town's website, www.townofkillingworth.com. Each proposer is responsible for checking the website to determine if the Town has issued any addenda and, if so, to complete its proposal in accordance with the RFP as modified by the addenda.

No oral statement of the Town, including oral statements by the Town representatives listed above, shall be effective to waive, change or otherwise modify any of the provisions of this RFP, and no proposer shall rely on any alleged oral statement.

7. ADDITIONAL INFORMATION

The Town reserves the right, either before or after the opening of proposals, to ask any proposer to clarify its proposal or to submit additional information that the Town in its sole discretion deems desirable.

In the course of completing the work, access to work areas by the Town, its consultants, Department of Public Health, the Department of Energy and Environmental Protection and/or other state or federal representatives will be permitted, including a review of project records.

8. COSTS FOR PREPARING PROPOSAL

Each proposer's costs incurred in developing its proposal are its sole responsibility, and the Town shall have no liability for such costs.

9. OWNERSHIP OF PROPOSALS

All proposals submitted become the Town's property and will not be returned to proposers.

10. FREEDOM OF INFORMATION ACT

All information submitted in a proposal or in response to a request for additional information is subject to disclosure under the Connecticut Freedom of Information Act as amended and judicially interpreted. A proposer's responses may contain financial, trade secret or other data that it claims should not be public (the "Confidential Information"). A proposer must identify specifically the pages and portions of its proposal or additional information that contain the claimed Confidential Information by visibly marking all such pages and portions. Provided that the proposer cooperates with the Town as described in this section, the Town shall, to the extent permitted by law, protect from unauthorized disclosure such Confidential Information.

If the Town receives a request for a proposer's Confidential Information, it will promptly notify the proposer in writing of such request and provide the proposer with a copy of any written disclosure request. The proposer 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 proposer shall be responsible for defending any complaint brought in connection with the nondisclosure, including but not only appearing before the Freedom of Information Commission, and providing witnesses and documents as appropriate.

11. REQUIRED DISCLOSURES

Each proposer must, in its Proposal Form, make the disclosures set forth in that form. A proposer's acceptability based on those disclosures lies solely in the Town's discretion.

12. REFERENCES

Each proposer must complete and submit the Proposer's Statement of References form included in this RFP (Attachment E).

13. LEGAL STATUS

If a proposer is a corporation, limited liability company, or other business entity that is required to register with the Connecticut Secretary of the State's Office, it must have a current registration on file with that office. The Town may, in its sole discretion, request acceptable evidence of any proposer's legal status. Each proposer must complete and submit the Proposer's Legal Status Disclosure form included in this RFP.

14. PROPOSAL (BID) SECURITY:

Each proposal must be accompanied by a certified check of the proposer or a proposal (bid) bond with a surety acceptable to the Town in an amount equal to at least **TEN PERCENT (10%)** of the proposal amount. The proposal (bid) bond shall be written by a company or companies licensed to issue bonds in the State of Connecticut, which company or companies shall have at least an "A-" VIII policyholders rating as reported in the latest edition of Best Publication's Key Rating Guide. The successful proposer, upon its refusal or failure to execute and deliver the Contract, certificate(s) of insurance, W-9 form, performance security or other documents required by this RFP within **ten (10) business days** of written notification of preliminary award, unless the Town otherwise agrees in writing, shall forfeit to the Town, as liquidated damages for such failure or refusal, the security submitted with its proposal.

Upon the successful proposer's execution of the Contract in the form enclosed with this RFP, the Town shall return the proposal security to the successful proposer and to all other proposers.

15. PRESUMPTION OF PROPOSER'S FULL KNOWLEDGE

Each proposer is responsible for having read and understood each document in this RFP and any addenda issued by the Town. A proposer's failure to have reviewed all information that is part of or applicable to this RFP, including but not only any addenda posted on the Town's website, shall in no way relieve it from any aspect of its proposal or the obligations related thereto.

Each proposer is deemed to be familiar with and is required to comply with all federal, state and local laws, regulations, ordinances, codes and orders that in any manner relate to this RFP or the performance of the work described herein.

By submitting a proposal, each proposer represents that it has thoroughly examined and become familiar with the scope of work outlined in this RFP, and it is capable of performing the work to achieve the Town's objectives. If applicable, each proposer shall visit the site, examine the areas and thoroughly familiarize itself with all conditions of the property before preparing its proposal.

16. SUBSTITUTION FOR NAME BRANDS

The proposer must attach detailed information concerning deviations from any name brands specified in the RFP and explain in detail how the substitution compares with the name brand's specifications. The Town in its sole discretion shall decide whether the substitution is acceptable.

17. TAX EXEMPTIONS

The Town is exempt from the payment of federal excise taxes and Connecticut sales and use taxes. Federal Tax Exempt # 06-600-2022.

18. INSURANCE

The successful proposer shall, at its own expense and cost, obtain and keep in force at least the insurance listed in the Insurance Requirements that are a part of this RFP (Attachment D). The Town reserves the right to request from the successful proposer a complete, certified copy of any required insurance policy.

19. PERFORMANCE SECURITY

The successful proposer shall furnish a performance bond covering the faithful performance of the Contract (the "Performance Security"). The Performance Security shall be 100% of the Contract price and shall be issued by a company licensed by the State of Connecticut that has at least an "A-" VIII policyholders rating according to Best Publication's latest edition Key Rating Guide." The cost of the Performance Security shall be included in the proposal price.

In addition to the Performance Security, the successful proposer shall furnish a bond covering the successful proposer's payment to its subcontractors and suppliers of all obligations arising under the Contract (the "Payment Bond"). The Payment Bond shall be (a) in the full amount of the Contract price; (b) in a form reasonably acceptable to the Town; and (c) issued by a company licensed by the State of Connecticut that has at least an "A-" VIII policyholders rating according to Best Publication's latest Key Rating Guide." The cost of the Payment Bond shall be included in the proposal price.

20. DELIVERY ARRANGEMENTS

The successful proposer shall deliver the items that are the subject of the RFP, at its sole cost and expense, to the location(s) listed in the Specifications.

21. AWARD CRITERIA; SELECTION; CONTRACT EXECUTION

All proposals will be publicly opened and read aloud as received on the date, at the time, and at the place identified in this RFP. Proposers may be present at the opening. The Town will provide bidding documents, an invitation for bids and shall furnish them upon request. The Town will maintain a complete set of bidding documents and shall make them available for inspection and copying by any party.

The Town reserves the right to correct, after proposer verification, any mistake in a proposal that is a clerical error, such as a price extension, decimal point error or FOB terms. 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 reserves the rights to accept all or any part of a proposal, reject all proposals, and waive any informalities or non-material deficiencies in a proposal. The Town also reserves the right, if applicable, to award the purchase of individual items under this RFP to any combination of separate proposals or proposers.

The Town will accept the proposal that, all things considered, the Town determines is in its best interests. Although price will be an important factor, it will not be the only basis for award. Due consideration may also be given to a proposer's experience, references, service, ability to respond promptly to requests, past performance, and other criteria relevant to the Town's interests, including compliance with the procedural requirements stated in this RFP.

The Town will not award the proposal to any business that or person who is in arrears or in default to the Town with regard to any tax, debt, contract, security or any other obligation.

The Town will select the low qualified bid proposal provided that the bid is responsive, responsible and is deemed

to be in the Town's best interest and issue a Preliminary Notice of Award to the successful proposer. The award may be subject to further discussions with the proposer. The making of a preliminary award to a proposer does not provide the proposer 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 proposer has rights, and the Town has obligations, only if and when a Contract is executed by the Town and the proposer.

Any contract or contracts awarded under this invitation for bids are expected to be funded in part by a loan from the State of Connecticut Drinking Water State Revolving Fund. Neither the State of Connecticut nor any of its Departments, agencies, or employees is or will be a party to this invitation for bids or any resulting contract. This procurement will be subject to the requirements contained in subsections (h), (j) and (o) of Section 22a-482-4 of the RCSA.

If the proposer does not 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 proposer and may enter into discussions with another proposer.

The Town will post the Preliminary Notice of Award and related information on its website, www.townofkillingworth.com under "Public Notices" The Preliminary Notice of Award and Contract Execution dates in Section 3's Key Dates are anticipated, not certain, dates.

22. AFFIRMATIVE ACTION, AND EQUAL OPPORTUNITY

Each proposer must submit a completed Proposer's Certification Concerning Equal Employment Opportunities and Affirmative Action Policy form included with this RFP. Proposers with fewer than ten (10) employees should indicate that fact on the form and return the form with their proposals (Attachment E).

25. NON COLLUSION AFFIDAVIT

Each proposer shall submit a completed Proposer's Non-Collusion Affidavit that is part of this RFP (Attachment E).

26. CONTRACT TERMS

The following provisions will be mandatory terms of the Town's Contract with the successful proposer (Sample Contract, Attachment E). If a proposer is unwilling or unable to meet any of these Contract Terms, the proposer must disclose that inability or unwillingness in its Proposal Form (see Section 11 of these Standard Instructions to Proposers). Contractor must adhere to those State and Federal requirements in Attachment F.

A. DEFENSE, HOLD HARMLESS AND INDEMNIFICATION

The successful proposer agrees, to the fullest extent permitted by law, to defend, indemnify, and hold harmless the Town, its employees, officers, officials, agents, volunteers and independent contractors, including any of the foregoing sued as individuals (collectively, the "Town Indemnified Parties"), from and against all proceedings, suits, actions, claims, damages, injuries, awards, judgments, losses or expenses, including attorney's fees, arising out of or relating, directly or indirectly, to the successful proposer's malfeasance, misconduct, negligence or failure to meet its obligations under the RFP or the Contract. The successful proposer's obligations under this section shall not be limited in any way by any limitation on the amount or type of the successful proposer's insurance. Nothing in this section shall obligate the successful proposer to indemnify the Town Indemnified Parties against liability for damage arising out of bodily injury to persons or damage to property caused by or resulting from the negligence of the Town Indemnified Parties.

In any and all claims against the Town Indemnified Parties made or brought by any employee of the successful proposer, or anyone directly or indirectly employed or contracted with by the successful proposer, or anyone for whose acts or omissions the successful proposer is or may be liable, the successful proposer'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 successful proposer under workers' compensation acts, disability benefit acts, or other employee benefits acts.

The successful proposer shall also be required to pay any and all attorney's fees incurred by the Town Indemnified Parties in enforcing any of the successful proposer's obligations under this section, which obligations shall survive the termination or expiration of this RFP and the Contract.

As a municipal agency of the State of Connecticut, the Town will NOT defend, indemnify, or hold harmless the successful proposer.

B. ADVERTISING

The successful proposer shall not name the Town in its advertising, news releases, or promotional efforts without the Town's prior written approval. If it chooses, the successful proposer may list the Town in a Statement of References or similar document required as part of its response to a public procurement. The Town's permission to the successful proposer to do so is not a statement about the quality of the successful proposer's work or the Town's endorsement of the successful proposer.

C. W-9 FORM

The successful proposer must provide the Town with a completed W-9 form before Contract execution.

D. PAYMENTS

Proposers are encouraged to offer discounts for early payment. All other payments are to be made 30 days after the appropriate Town employee receives and approves the invoice, unless otherwise specified in the Specifications. The Town will retain no more than 5-percent on progress payment until the completion of the work.

Monthly payment requisitions shall include lien waivers from the Contractor and all subcontractors and suppliers that have performed work during the requisition period. The successful bid shall submit a schedule of values prior to the execution of the contract.

In each of its contracts with subcontractors or materials suppliers, the successful proposer shall agree to pay any amounts due for labor performed or materials furnished not later than thirty (30) days after the date the successful proposer receives payment from the Town that encompasses the labor performed or materials furnished by such subcontractor or material supplier. The successful proposer shall also require in each of its contracts with subcontractors that such subcontractor shall, within thirty (30) days of receipt of payment from the successful proposer, pay any amounts due any sub-subcontractor or material supplier, whether for labor performed or materials furnished.

Each payment application or invoice shall be accompanied by a statement showing the status of all pending change orders, pending change directives and approved changes to the Contract. Such statement shall identify the pending change orders and pending change directives and shall include the date such change orders and change directives were initiated, additional cost and/or time associated with their performance and a description of any work completed. The successful proposer shall require each of its subcontractors and suppliers to include a similar statement with each of their payment applications or invoices. The maximum mark-up of 15% on labor and material costs and 5% on cost incurred by subcontractors.

E. RIGHT TO TERMINATE

If the Contracting Party's fails to comply with any of the terms, provisions or conditions of the Contract, including the exhibits, the Town shall have the right, in addition to all other available remedies, to declare the Contract in default and, therefore, to terminate it and to resubmit the subject matter of the Contract to further public

procurement. In that event, the Contracting Party shall pay the Town, as liquidated damages, the amount of any excess of the price of the new contract over the Contract price provided for herein, plus any legal or other costs or expenses incurred by the Town in terminating this Contract and securing a new contracting party

F. TOWN INSPECTION OF WORK

The Town may inspect the successful proposer's work at all reasonable times. This right of inspection is solely for the Town's benefit and does not transfer to the Town the responsibility for discovering patent or latent defects. The successful proposer has the sole and exclusive responsibility for performing in accordance with the Contract.

G. REJECTED WORK OR MATERIALS

The successful proposer, at its sole cost and expense, shall remove from the Town's property rejected items, commodities and/or work within 48 hours of the Town's notice of rejection. Immediate removal may be required when safety or health issues are present.

H. MAINTENANCE AND AVAILABILITY OF RECORDS

The successful proposer 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 is later. Such records shall be available for examination and audit by Town, state and federal representatives during that time.

I. SUBCONTRACTING

Prior to entering into any subcontract agreement(s) for the work described in the Contract, the successful proposer shall provide the Town with written notice of the identity (full legal name, street address, mailing address (if different from street address), and telephone number) of each proposed subcontractor. The Town shall have the right to object to any proposed subcontractor by providing the successful proposer with written notice thereof within seven (7) business days of receipt of all required information about the proposed subcontractor. If the Town objects to a proposed subcontractor, the successful proposer shall not use that subcontractor for any portion of the work described in the Contract.

All permitted subcontracting shall be subject to the same terms and conditions as are applicable to the successful proposer. The successful proposer shall remain fully and solely liable and responsible to the Town for performance of the work described in the Contract. The successful proposer also agrees to promptly pay each of its subcontractors within thirty (30) days of receipt of payment from the Town or otherwise in accordance with law. The successful proposer shall assure compliance with all requirements of the Contract. The successful proposer shall also be fully and solely responsible to the Town for the acts and omissions of its subcontractors and of persons employed, whether directly or indirectly, by its subcontractor(s).

J. PREVAILING WAGES:

State law may require that wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker under the Contract and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in Conn. Gen. Stat. § 31-53, as amended, 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 (Davis-Bacon prevailing wage laws, including reporting requirements). A successful proposer 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. Upon Contract award, the successful proposer must certify under oath to the State Labor Commissioner the pay scale to be used by the successful proposer and its subcontractors.

The State prevailing wages for the Town of Killingworth, [effective January 1, 2025](#), as required by the Connecticut Department of Labor is included in Attachment E (table) and under the federal David-Bacon Act are applicable to this contract including all reporting requirements.

K. PREFERENCES

The successful proposer shall comply with the requirements of Conn. Gen. Stat. § 31-52(b), as amended. Specifically, the successful proposer agrees that in the employment of labor to perform the work under the Contract, preference shall be given to citizens of the United States who are, and have been continuously for at least three (3) months prior to the date of the Contract, residents of the labor market area (as established by the State of Connecticut Labor Commissioner) in which such work is to be done, and if no such qualified person is available, then to citizens who have continuously resided in Middlesex County for at least three (3) months prior to the date hereof, and then to citizens of the State who have continuously resided in the State at least three (3) months prior to the date of the Contract.

L. WORKERS COMPENSATION

Prior to Contract execution, the Town will require the tentative successful proposer to provide a current statement from the State Treasurer that, to the best of her knowledge and belief, as of the date of the statement, the tentative successful proposer was not liable to the State for any workers' compensation payments made pursuant to Conn. Gen. Stat. § 31-355.

M. SAFETY

The successful proposer and each of its permitted subcontractors shall furnish proof that each employee performing the work of a mechanic, laborer or worker under the Contract has completed a course of at least ten (10) hours in construction safety and health approved by the federal Occupational Safety and Health Administration or has completed a new miner training program approved by the Federal Mine Safety and Health Administration. Such proof shall be provided with the certified payroll submitted for the first week each such employee, mechanic, laborer, or worker begins work under the Contract.

N. COMPLIANCE WITH LAWS

The successful proposer shall comply with all applicable laws, regulations, ordinances, codes and orders of the United States, the State of Connecticut and the Town related to its proposal and the performance of the work described in the Contract. Proposer is prohibited on certain telecommunications and video surveillance equipment or services, as outlined 2 CFR 200 216 Section 889 of Public Law 115-2323.

O. LICENSES AND PERMITS

The successful proposer certifies that, throughout the Contract term, it shall have and provide proof of all approvals, permits and licenses required by the Town and/or any state or federal authority. The successful proposer shall immediately and in writing notify the Town of the loss or suspension of any such approval, permit or license. The successful proposer shall apply for all building permits and arrange for all required inspections. No permit fees will be charged for this municipal project.

P. CESSATION OF BUSINESS/BANKRUPTCY/RECEIVERSHIP

If the successful proposer ceases to exist, dissolves as a business entity, ceases to operate, files a petition or proceeding under any bankruptcy or insolvency laws or has such a petition or proceeding filed against it, the Town has the right to terminate the Contract effective immediately. In that event, the Town reserves the right, in its sole discretion as it deems appropriate and without prior notice to the successful proposer, to make arrangements with another person or business entity to provide the services described in the Contract.

Q. AMENDMENTS

The Contract may not be altered or amended except by the written agreement of both parties.

R. ENTIRE AGREEMENT

The parties are not, and shall not be, bound by any stipulations, representations, agreements or promises, oral or written. It is expressly understood and agreed that the Contract contains the entire agreement between the parties, and that otherwise, not printed or inserted in the Contract or its attached exhibits.

S. VALIDITY

The invalidity of one or more of the phrases, sentences or clauses contained in the Contract shall not affect the remaining portions so long as the material purposes of the Contract can be determined and effectuated.

T. CONNECTICUT LAW AND COURTS

The Contract shall be governed by and construed in accordance with the internal laws (as opposed to the conflicts of law provisions) of the State of Connecticut, and the parties irrevocably submit in any suit, action or proceeding arising out of the Contract to the jurisdiction of the United States District Court for the District of Connecticut or of any court of the State of Connecticut, as applicable.

U. NON-EMPLOYMENT RELATIONSHIP

The Town and the successful proposer 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 successful proposer 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 successful proposer shall be solely responsible for any applicable taxes.

END OF STANDARD INSTRUCTIONS TO PROPOSERS

Attachment A

LEGAL NOTICE

TOWN OF KILLINGWORTH, CONNECTICUT REQUEST FOR PROPOSALS

POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL February 12, 2025

The Town of Killingworth will receive sealed bids for the installation of a Point-of-Entry Treatment (POET) System including supply and installation of water conveyance piping and start-up of the POET system within the Killingworth Elementary School located at 340 Route 81 (Higganum Road) in Killingworth, until March 14, 2025. Proposals will be opened in public and read aloud at the March 17, 2025, Board of Selectmen's meeting at 7:00 p.m.

Request for Proposals documents will be available on February 14, 2025 and may be obtained on the Town's website, www.townofkillingworth.com, under "Bids and RFPs" or from the Selectmen's Office, Killingworth Town Hall, 323 Route 81, Killingworth CT 06419 for a non-refundable \$100 per bid package.

A mandatory site visit/pre-bid will be held at Killingworth Elementary School on February 27, 2025, at 4 PM. Please consult the Town website for confirmation of time and date.

The Town of Killingworth reserves the rights to amend or terminate this Request for Proposals, accept all or any part of a proposal, reject all proposals, waive any informalities or non-material deficiencies in a proposal, and award the proposal to the proposer that, in the Town's judgment, will be in the Town's best interests.

Minority business enterprises will be afforded full opportunity to submit bids and are encouraged to do so. The Town of Killingworth is an Affirmative Action/Equal Opportunity Employer.

Eric Couture, First Selectman

TOWN OF KILLINGWORTH, CONNECTICUT

Attachment B

TOWN OF KILLINGWORTH, CONNECTICUT

Proposal Number: 2025-03

SPECIFICATIONS FOR

POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

Specification Documents

Division 000

Division 001

Division 022

Specification Documents

Division 000

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Point-of-Entry Treatment System for
Killingworth Elementary School**

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Attachment A – Contract Drawings

Figure 1: Location Plan and Figure Index
Figure 2: Site Vicinity Plan – Elementary School, Fire Department, Department of Public Works, and Municipal Buildings
Figure 3: KES Site Plan
Figure 4: KES #2 Mechanical Room Enlarged Plan
Figure 5: KES Treatment System Flow Schematic
Figure 6: KES #1 Boiler Room Enlarged Plan

Attachment B – Point of Entry Treatment System for Killingworth Elementary School

Attachment C – Connecticut Department of Public Health Approval

Attachment D – April 2023 Six Month AHERA Asbestos Periodic Surveillance Report

Table 1.0 Water Quality Criteria

END OF SECTION

**SECTION 00 41 00
 BID FORM
 POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL
 PROPOSAL # 2024-XX
 KILLINGWORTH, CT**

Item No.	Estimated Quantity	Unit Bid Prices in Words*	Lump Sum or Unit Price in Figures	Total Price in Figures
1	1 Lump Sum	<i>Performance and Payment Bond</i>		
		The Lump Sum of: _____ per Lump Sum	_____	\$ _____
2	1 Lump Sum	<i>Submittals</i>		
		The Lump Sum of: _____ per Lump Sum	_____	\$ _____
3	1 Lump Sum	<i>Mobilization</i>		
		The Lump Sum of: _____ per Lump Sum	_____	\$ _____
4	1 Lump Sum	<i>Supply and Installation of Treatment System Components</i>		
		The Lump Sum of: _____ per Lump Sum	_____	\$ _____
5	1 Lump Sum	<i>Supply and Installation of Piping</i>		
		The Lump Sum of: _____ per Lump Sum	_____	\$ _____
6	1 Lump Sum	<i>Testing and Flushing</i>		
		The Lump Sum of: _____ per Lump Sum	_____	\$ _____
7	1 Lump Sum	<i>Demobilization</i>		
		The Lump Sum of: _____ per Lump Sum	_____	\$ _____
TOTAL BASE BID AMOUNT				\$ _____
				TOTAL

* Brief Descriptions of Bid Items are provided for bidder convenience only. Refer to Specification Section 01 20 00 for detailed descriptions of each Payment Item.

PLEASE INDICATE HOW YOU HEARD ABOUT THE INVITATION TO BID:	
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SECTION 00 41 00
 BID FORM
 POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL
 PROPOSAL # 2024-XX
 KILLINGWORTH, CT

Item No.	Estimated Quantity	Unit Bid Prices in Words*	Lump Sum or Unit Price in Figures	Total Price in Figures
ACKNOWLEDGEMENT OF THE RECEIPT OF THE FOLLOWING ADDENDUMS				
Addendum No.	Addendum Date	Bidders Initials		

Company Name of Bidder	
Signature of Bidder and Date	
Signature	Date
Printed Name of Bidder	

Table 1.0

CT Drinking Water Action Level (DWAL)	CTDPH DWAL (ng/L)	EPA's MCLs (ng/L)
6:2 chloropolyfluoroether sulfonic acid (6:2 Cl-PFESA, 9Cl-PF3ONS (F-53B major))	2	
8:2 chloropolyfluoroether sulfonic acid (8:2 Cl-PFESA, 11Cl-PF3OUdS (F-53B minor))	5	
Perfluorooctane sulfonic acid (PFOS)	10	4
Perfluorononanoic acid (PFNA)	12	10
Perfluorooctanoic acid (PFOA)	16	4
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	19	10
Perfluorohexane sulfonic acid (PFHxS)	49	10
Perfluorohexanoic acid (PFHxA)	240	
Perfluorobutane sulfonic acid (PFBS)	760	
Perfluorobutanoic acid (PFBA)	1,800	
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS		1 (unitless) Hazard Index (HI) ¹

$$\mathbf{HI} = \text{Hazard Index} = ([\text{GenXwater}]/[10 \text{ ppt}]) + ([\text{PFBSwater}]/[2000 \text{ ppt}]) + ([\text{PFNAwater}]/[10 \text{ ppt}]) + ([\text{PFHxSwater}]/[10.0 \text{ ppt}])$$

Compliance will require meeting either the CT DWAL or EPSs MLC which ever is lower.

Specification Documents

Division 001

SECTION 01 11 00 - SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Site Description
- C. Project Objectives
- D. Scope of Work
- E. Contract Bid Items

1.2 DESCRIPTION

- A. This Section provides a Site description, the location and description of the Work.
- B. The Work shall be performed at the Killingworth Elementary School (KES) and will consist of the installation of a Point-of-Entry Treatment (POET) system to treat Per- and Polyfluoroalkyl Substances (PFAS). The Limits of Work include 1) the installation of the POET system in a mechanical/boiler room (MBR) within the lower level of the northwestern portion of KES, and 2) the installation of a water conveyance system to/from a Boiler Room within the lower level in the eastern portion of KES, and overhead piping along hallways, within classrooms, and other spaces between the MBR and the Boiler Room. Contractor's access to and use of the school shall be in accordance with Section 01 14 00 – Work Restrictions, the Drawings, and other applicable provisions of the Contract Documents. Contractor will be strictly monitored by the Owner and Engineer for compliance with these restrictions. No access or activities by Contractor will be allowed outside the Limits of Work unless pre-approved by Owner. All work will be performed during the summer break while school is not in session.

1.3 SITE DESCRIPTION

- A. Location of Work
 - 1. The Work under this Contract shall be performed at the Killingworth Elementary School (KES) located at 340 Route 81 (Higganum Road) in Killingworth, Connecticut. The Site is generally bounded to the east by Higganum Road, a residential property and vacant land to the south, a residential property and vacant land to the north, and vacant land to the west.
- B. Site Description
 - 1. The Site is an elementary school with a capacity of approximately 300 students and faculty. The school building was originally built in 1948, and several expansions were added to the original building since its original construction. A playground is present within a courtyard between the original building and the additions and paved parking areas are located to the east, southeast, and northwest of the school. The remaining areas surrounding the school consists of athletic or grassed fields, landscaped

- 1) Contractor must adhere to CTDPH "GUIDELINES FOR INSTALLING AND MAINTAINING ULTRAVIOLET LIGHT TREATMENT UNITS FOR THE PRIMARY DISINFECTION OF GROUNDWATER PUBLIC WATER SYSTEMS" – see Attachment E

areas, and wooded areas. The leachfield for the school is located in a large, grassed field located to the west of the school and the school is heated with fuel oil. The fuel oil is stored within an underground storage tank (UST) located within the playground courtyard created by the buildings.

Two wells (KES#1 and KES#2) provide potable water to the school. The KES#1 wellhead is located in a boiler room in the lower level of the original building. The KES#2 wellhead is located outside the building and adjacent to a paved driveway to the northwest of the school. An approximately 7,000-gallon fiberglass reinforced, UST is located within the courtyard created by the buildings directly outside of the boiler room for the original building. This UST stores blended water from KES#1 and KES#2 prior to its distribution throughout the school.

2. Under existing conditions, the wellhead and piping for KES#1 are located within the boiler room (referred to as the Boiler Room) in the lower level of the original building. The extracted groundwater from KES#1 combines with KES#2 and is pumped through two calcite fiberglass tanks for pH adjustment prior to entering the fiberglass reinforced UST.
3. Under existing conditions, the piping from the KES#2 wellhead extends underground to a pneumatic pressure tank within a mechanical/boiler room (referred to as the MBR) within the lower level of the northwestern portion of the school. The water from KES#2 then conveyed from the MBR within piping installed within drop ceilings and chases to a lower level of the building on the west side of the courtyard. The piping then extends under the courtyard within a 4-inch diameter PVC carrier pipe to the Boiler Room in the lower level of the original building. Water from KES#2 combines with KES#1 and flows through two calcite fiberglass tanks for pH adjustment prior to entering the fiberglass reinforced UST.
4. The submersible pumps within KES#1 and KES#2 are controlled by electrodes within the fiberglass reinforced UST within the courtyard. Low level electrodes energize relays to the motor starters that activate the KES#1 and KES#2 submersible pumps and energizes another relay that opens a ball valve within the KES#2 piping. When the level of water in the storage tank reaches a certain set-point, an upper electrode in the tank deactivates the submersible pump from KES#1 and closes the ball valve on the piping from the KES#2 well. The KES#2 submersible pump keeps pumping against the closed valve until a pressure switch in the pneumatic tank in the MBR deactivates the pump.
5. Access routes into the school, the MBR, and the Boiler Room are provided in Section 01 14 00 – Work Restrictions.
6. Asbestos containing materials (ACM) were identified in certain components with the school. An April 2023 inspection report that lists the condition and location of the identified ACM within the school building is attached (Attachment D) to the specifications for reference.

- 1) Contractor must adhere to CTDPH “GUIDELINES FOR INSTALLING AND MAINTAINING ULTRAVIOLET LIGHT TREATMENT UNITS FOR THE PRIMARY DISINFECTION OF GROUNDWATER PUBLIC WATER SYSTEMS” – see Attachment E

1.4 PROJECT OBJECTIVES

- A. Per- and Polyfluoroalkyl Substances (PFAS) have been detected from the KES#1 and KES#2 wells at concentrations above Connecticut’s Department of Public Health’s (CT-DPH) Drinking Water Action Levels (DWALs). Currently, bottled water is provided for drinking and cooking (cafeteria) at KES.
- B. Elevated lead concentrations have also been previously detected within the water at the elementary school and the pH of the extracted groundwater from KES#1 and KES#2 is currently being adjusted to mitigate potential leaching of lead from lead soldered pipe connections (within the school) using calcite beds.
- C. The goal of the Work is to 1) install a POET including all associated piping and appurtenances to treat the extracted groundwater from KES#1 and KES#2 reducing PFAS concentrations to below the DWALs out of the storage UST, and 2) continue to provide for pH adjustment to mitigate potential leaching of lead from soldered pipe joints, within the school.

1.5 SCOPE OF WORK

- A. Contractor shall furnish all labor, materials, services, insurance, tools, equipment, temporary facilities, and incidentals to perform the Work in accordance with the Contract Documents, including the Drawings and Specifications and applicable laws, permits, regulations, codes, ordinances, and standards. The Work consists of, but is not limited to, the following:
 - 1. Submittal of cutsheets, technical information, and manuals for all materials to be supplied and installed by the Contractor consistent with Section 01 33 00 – Submittal Procedures and as described in these Specifications. Note: All materials including, but not limited to, valve components, sealants, glues and adhesives, solder, and primers supplied by the Contractor shall be PFAS free.
 - 2. Unless otherwise indicated in the Contract Documents, obtain, and maintain all local, State, and federal permits required to perform the Work. Required permits include, but are not necessarily limited to, the following:
 - a. Town of Killingworth Plumbing Permit
 - b. Town of Killingworth Electrical Permit.
 - c. Town of Killingworth Building Permit.
 - 3. Mobilization of all required personnel, equipment, and materials to the Site including porta-lets for Contractor’s use.
 - 4. Attendance at, preparation for and participation in all required meetings consistent with Section 01 31 19 – Project Meetings.
- 1) Contractor must adhere to CTDPH “GUIDELINES FOR INSTALLING AND MAINTAINING ULTRAVIOLET LIGHT TREATMENT UNITS FOR THE PRIMARY DISINFECTION OF GROUNDWATER PUBLIC WATER SYSTEMS” – see Attachment E

5. Coordination of the Work and access to the school with KES staff, Town personnel and Town’s Environmental Consultant.
6. Prior to the installation of the POET system, the contractor shall pull, inspect, verify the pump models [(KES #1 is a Flint & Walling 4” submersible pump (1 ½ HP model 4F10S 15), whereas the pump in KES#2 is a Grundfos 4” submersible pump (0.75 HP Model 5S07-18)], and clean the existing well pumps. Should the model number be different, the contractor will notify the Town personnel and Town’s Environmental Consultant. Contractor should carry a cost for this task; however, per the design, the Town may elect to subcontract with a pump company.
7. Supply and installation of a treatment system equipment mounting wall within the MBR as shown on the Drawings.
8. Supply, installation, mounting, and securing of the treatment system equipment components including, but not limited to, sediment filters, granular activated carbon vessels, ultraviolet sterilizer, calcite tanks, pneumatic pressure tanks, and all associated appurtenances (piping, valving, sample ports, flow controllers, flowmeters, pressure indicators, pipe fittings, insulation, anchors, supports, hangers, etc.) within the MBR as shown on the Drawings. The primary treatment system equipment components shall include the following:
 - a. Model WX251 diaphragm well tank manufactured by Amtrol;
 - b. 16”x65” HDPE mineral tanks manufactured by Clack Corporation.
 - 1) All components must be PFAS free.
 - c. Pro 30 ultraviolet (UV)¹ sterilizer manufactured by Viqua.
 - d. Model 50-5-micron sediment filters manufactured by Enpress; and,
 - e. 16”x65” fiberglass reinforced (FR) exchange tanks manufactured by Culligan (see Appendix D of the design in Appendix B).

Any proposed substitutions shall be pre-approved by the Engineer. If the Engineer does not approve the proposed substitution, the Contractor shall supply the component specified herein at no additional cost to the Owner.

Note: The existing relays and switches controlling the operation of the submersible pumps within KES#1 and KES#2 shall be maintained.

9. Supply and installation of 6.8 cubic feet/49-gallon Filtersorb 600AW, granular activated carbon from Calgon Carbon Corporation. Work includes filling the fiberglass reinforced exchange tanks with the activated carbon consistent with the manufacturer’s recommendations.
10. Supply and installation of 16 x 65-inch calcite filter vessels (by Clack). Work includes filling the mineral tanks with the calcite consistent with the manufacturer’s recommendations.

1) Contractor must adhere to CTDPH “GUIDELINES FOR INSTALLING AND MAINTAINING ULTRAVIOLET LIGHT TREATMENT UNITS FOR THE PRIMARY DISINFECTION OF GROUNDWATER PUBLIC WATER SYSTEMS” – see Attachment E

11. Supply of 1-case of Model 50-5-micron filters, beyond the system installation.
 12. Supply 4- GAC unit backups.
 13. Connecting the existing piping from the KES#2 wellhead to the new treatment system equipment as shown on the Drawings.
 - a. Supply and installation of new piping extending from the MBR through the school within drop ceilings and piping chases to the Boiler Room as generally shown on the Drawings to connect the treatment system equipment to the fiberglass reinforced UST. Work includes extending the new piping through existing interior building walls and through the existing 4-inch PVC carrier pipe beneath the courtyard. Contractor shall be responsible for sealing any penetrations through interior building walls created during the performance of the Work in accordance with all applicable Building and Plumbing codes (not limited to fire protection/code).
 14. Supply and installation of new piping in the Boiler Room including, but not limited to, fittings, piping insulation, hangers, supports, and anchors to connect the KES#1 wellhead to the existing KES#2 piping from the MBR.
 15. Supply and installation of new piping in the MBR including, but not limited to, fittings, piping insulation, hangers, supports, and anchors to connect the KES#1 piping from the Boier Room to the treatment system as shown on the Drawings.
 16. Repair to KES #1 well, either
 - 1) Sanding the exposed outer steel casing of and re-paint and supply a sleeve to a depth below the water table from top of casing, or
 - 2) Remove concrete around the well casing dig down below the corroded interior pipe (or to water table), cut the casing and reinstall a new section of casing to the original height. This will require the removal of the well pump.
 17. Contractor shall be responsible for all equipment and material to hydrostatically test the treatment system components and the interconnected piping prior to acceptance by the Owner. The piping and treatment system components shall be tested at a pressure of 50 psig above the operating pressure without exceeding the pressure rating of the piping system material. The test shall be considered acceptable if there is no pressure loss over a 4-hour period. If there is a pressure loss over a 4-hour period, the Contractor is responsible for identifying the leak; repairing and/or replacing any piping, fitting, or component that is leaking; and retesting the entire new piping and treatment system at no additional cost to the Owner.
- 1) Contractor must adhere to CTDPH “GUIDELINES FOR INSTALLING AND MAINTAINING ULTRAVIOLET LIGHT TREATMENT UNITS FOR THE PRIMARY DISINFECTION OF GROUNDWATER PUBLIC WATER SYSTEMS” – see Attachment E

18. Flushing a minimum of 200-gallons of water through the treatment system to demonstrate the system is working properly (or per manufactures requirements). The treated water discharge will by-pass the school and will be temporarily directed to a floor drain in the MBR and the Engineer will be responsible for collecting samples of the treated water. If levels are below the DWALs, the treated water will be directed to the fiberglass reinforced UST for use by the school.
 19. Coordination with Town Building Inspectors/Officials to inspect the Work. Contractor shall address any issues or deficiencies identified by the Town Inspectors/Officials at no additional cost to the Owner.
 20. Repairing or replacing any damage to the school building, property, or equipment identified by the Engineer and/or Owner as a result of the Contractor's work to match original conditions at no additional cost to the Owner.
 21. Warranty the Work for a period of 1-year after acceptance.
 22. Demobilization including, but not limited to removal of all personnel, equipment, and materials from the Site and building, final cleaning, and project closeout in accordance with Section 01 74 00– Final Cleaning, Section 01 77 00 – Closeout Procedures, and Section 01 78 00 – Project Record Documents.
- B. Work shall include replacement, repair, and/or re-installation, as necessary and appropriate, of any items which do not comply with the Contract Drawings and/or Specifications at no additional cost to the Owner.
 - C. The Work shall be performed under one Contract Document with project oversight by the Owner and/or Engineer.

1.6 CONTRACT BID ITEMS

- A. **A Schedule of Values for each Lump Sum item on the Bid Form shall be provided with the Bid.** All pricing shall be appropriately apportioned to the various parts of the Work. If requested by Owner, Contractor shall substantiate any price or prices with additional breakdown. The Schedule of Values will require review and approval by the Engineer and Owner.
- B. The scope of each Bid Item is described in Section 01 20 00 – Price and Payment Procedures and summarized for convenience purposes only on the Bid Form (Section 00 41 00).
- C. Contractor shall visit the Site and inspect the nature and condition of the facilities prior to Bid submission. There are no as-builts on the existing piping between MBR and Boiler Room. No increase in price or extension of time will be considered for failure to fully understand the conditions of the Site and the school building.

PART 2 PRODUCTS

- 1) Contractor must adhere to CTDPH "GUIDELINES FOR INSTALLING AND MAINTAINING ULTRAVIOLET LIGHT TREATMENT UNITS FOR THE PRIMARY DISINFECTION OF GROUNDWATER PUBLIC WATER SYSTEMS" – see Attachment E

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

- 1) Contractor must adhere to CTDPH “GUIDELINES FOR INSTALLING AND MAINTAINING ULTRAVIOLET LIGHT TREATMENT UNITS FOR THE PRIMARY DISINFECTION OF GROUNDWATER PUBLIC WATER SYSTEMS” – see Attachment E

SECTION 01 14 00 - WORK RESTRICTIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Work Schedule and Sequencing
- C. Work Hours and Days
- D. Local Ordinances
- E. Contractor's Use of Site

1.2 DESCRIPTION

- A. Contractor shall perform and sequence the Work in a manner that meets all Work restrictions in accordance with this Section and the Contract Documents.
- B. The intent of the Work is to minimize the impact to school activities and operations to the maximum extent possible.

1.3 WORK SCHEDULE AND SEQUENCING

- A. The Work shall be performed in the summer after the 2024-2025 school year which is anticipated to end on June 10, 2025, depending on the number of inclement weather cancellations.
- B. The Work shall be completed, and the treatment system shall be operable prior to the start of the 2025-2026 school year. At this time the work should be completed no later than August 18, 2025, or as stated in the contract.
- C. No Work or deliveries will be permitted while school is in session or students are present in the school.
- D. The Work of this Contract consists of 4 primary phases that will need to be coordinated with the Owner and the Engineer. The work in the phases can be completed concurrently or in parallel provided the sequence is pre-approved by the Owner/Engineer.
 - 1. Phase I consists of the work within the MBR within the lower level of northwestern portion of the school. Installation of the POET system and KES#1 & KES#2 piping to/from Boiler Room.
 - 2. Phase II consists of the work within the Boiler Room on the lower level of the original building. Installation of piping from POET system into water storage UST and relay connections.
 - 3. Phase III consists of installing the overhead piping from the MBR to the Boiler Room and within the existing sleeve under the courtyard.

4. Phase IV consists of hydrostatically testing the piping and treatment system components, flushing of the treatment system components, and verifying proper operation and start-up of the treatment system.

1.3 WORK HOURS AND DAYS

- A. Contractor shall plan and schedule Work activities to be completed during normal business hours 7:00 a.m. to 4:00 p.m. Work may be performed outside these hours and overnight with at least a 2-week advance notice to and pre-approval by the Owner.
- B. Work can be performed 7-days per week with at least a 2-week advance notice to and pre-approval by the Owner and at no additional cost to the Owner.
- C. No material or equipment deliveries shall occur prior to 7:00 a.m.

1.4 LOCAL ORDINANCES

- A. Work shall be performed in accordance with all applicable Laws and Regulations, including all applicable local ordinances.
- B. If complaints are received by the Owner regarding interferences and/or non-compliance with local ordinances including noise ordinances due to Work activities, then no further Work shall be performed until corrective measures are implemented by the Contractor and approved by the Owner.

1.5 CONTRACTOR'S USE OF SITE

- A. Equipment/material staging areas shall be limited to the MBR, the Boiler Room or in the staff/teacher parking lot as shown on the Drawings.
- B. Contractor employee parking shall be confined to the staff/teacher parking lot as shown on the Drawings.
- C. Contractor shall access the school/Work area and sign (with owners' representative) in each morning through the front door of the school. Access will be confirmed as part of contract administration.
- D. After signing in each day (or as required by contract), Contractor may access the MBR through the exterior door and staircase directly adjacent to the MDR or the Boiler Room through the exterior in the courtyard.
- E. Under no circumstances shall Contractor perform any Work or conduct any activities outside the MBR, the Boiler Room, or the areas of the school as necessary to install the new piping between the MBR and the Boiler Room. Any disturbed area(s) outside these areas shall be restored to original conditions by Contractor at no additional cost to Owner.
- F. Unless so designated by the Owner, no authorized personnel or vendors shall be allowed within the school building during the Work.
- G. Contractor shall:
 1. Contractor shall be responsible for protecting their equipment and materials from vandalism during working and non-working hours. The Owner is not responsible for the protection of Contractor equipment or material from theft, damage, or vandalism.

2. During construction and until final acceptance of the Work, Contractor shall protect and be responsible for all Work performed by Contractor.
3. Existing Site features shall be protected, as required, from damage of any type which might result from Contractor's operations. In the event such features are damaged as a result of Contractor's operations, they shall be repaired by Contractor at no additional cost to Owner.
4. Conform to all applicable Laws, and Regulations, codes, ordinances and standards and Contract Documents.
5. Conform to the requirements of all Contractor and Owner obtained permits and approvals necessary to perform the Work.
6. Work harmoniously with the Engineer, Town of Killingworth, and school officials.
7. Coordinate performance and approvals of the Work with all local authorities including building officials and inspectors.
8. Contractor shall be responsible for providing porta-lets for their use during the course of the Work. The Contractor will not be permitted to use the school lavatories/restrooms.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 14 00 - WORK RESTRICTIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Work Schedule and Sequencing
- C. Work Hours and Days
- D. Local Ordinances
- E. Contractor's Use of Site

1.2 DESCRIPTION

- A. Contractor shall perform and sequence the Work in a manner that meets all Work restrictions in accordance with this Section and the Contract Documents.
- B. The intent of the Work is to minimize the impact to school activities and operations to the maximum extent possible.

1.3 WORK SCHEDULE AND SEQUENCING

- A. The Work shall be performed in the summer after the 2024-2025 school year which is anticipated to end on June 10, 2025, depending on the number of inclement weather cancellations.
- B. The Work shall be completed, and the treatment system shall be operable prior to the start of the 2025-2026 school year. At this time the work should be completed no later than August 18, 2025, or as stated in the contract.
- C. No Work or deliveries will be permitted while school is in session or students are present in the school.
- D. The Work of this Contract consists of 4 primary phases that will need to be coordinated with the Owner and the Engineer. The work in the phases can be completed concurrently or in parallel provided the sequence is pre-approved by the Owner/Engineer.
 - 1. Phase I consists of the work within the MBR within the lower level of northwestern portion of the school. Installation of the POET system and KES#1 & KES#2 piping to/from Boiler Room.
 - 2. Phase II consists of the work within the Boiler Room on the lower level of the original building. Installation of piping from POET system into water storage UST and relay connections.
 - 3. Phase III consists of installing the overhead piping from the MBR to the Boiler Room and within the existing sleeve under the courtyard.

4. Phase IV consists of hydrostatically testing the piping and treatment system components, flushing of the treatment system components, and verifying proper operation and start-up of the treatment system.

1.3 WORK HOURS AND DAYS

- A. Contractor shall plan and schedule Work activities to be completed during normal business hours 7:00 a.m. to 3:00 p.m. Work may be performed outside these hours and overnight with at least a 2-week advance notice to and pre-approval by the Owner.
- B. Work can be performed 7-days per week with at least a 2-week advance notice to and pre-approval by the Owner and at no additional cost to the Owner.
- C. No material or equipment deliveries shall occur prior to 7:00 a.m.

1.4 LOCAL ORDINANCES

- A. Work shall be performed in accordance with all applicable Laws and Regulations, including all applicable local ordinances.
- B. If complaints are received by the Owner regarding interferences and/or non-compliance with local ordinances including noise ordinances due to Work activities, then no further Work shall be performed until corrective measures are implemented by the Contractor and approved by the Owner.

1.5 CONTRACTOR'S USE OF SITE

- A. Equipment/material staging areas shall be limited to the MBR, the Boiler Room or in the staff/teacher parking lot as shown on the Drawings.
- B. Contractor employee parking shall be confined to the staff/teacher parking lot as shown on the Drawings.
- C. Contractor shall access the school/Work area and sign in each morning through the front door of the school. Access will be confirmed as part of contract administration.
- D. After signing in each day (or as required by contract), Contractor may access the MBR through the exterior door and staircase directly adjacent to the MDR or the Boiler Room through the exterior in the courtyard.
- E. Under no circumstances shall Contractor perform any Work or conduct any activities outside the MBR, the Boiler Room, or the areas of the school as necessary to install the new piping between the MBR and the Boiler Room. Any disturbed area(s) outside these areas shall be restored to original conditions by Contractor at no additional cost to Owner.
- F. Unless so designated by the Owner, no authorized personnel or vendors shall be allowed within the school building during the Work.
- G. Contractor shall:
 1. Contractor shall be responsible for protecting their equipment and materials from vandalism during working and non-working hours. The Owner is not responsible for the protection of Contractor equipment or material from theft, damage, or vandalism.
 2. During construction and until final acceptance of the Work, Contractor shall protect and be responsible for all Work performed by Contractor.

3. Existing Site features shall be protected, as required, from damage of any type which might result from Contractor's operations. In the event such features are damaged as a result of Contractor's operations, they shall be repaired by Contractor at no additional cost to Owner.
4. Conform to all applicable Laws and Regulations, codes, ordinances and standards and Contract Documents.
5. Conform to the requirements of all Contractor and Owner obtained permits and approvals necessary to perform the Work.
6. Work harmoniously with the Engineer, Town of Killingworth, and school officials.
7. Coordinate performance and approvals of the Work with all local authorities including building officials and inspectors.
8. Contractor shall be responsible for providing porta-lets for their use during the course of the Work. The Contractor will not be permitted to use the school lavatories/restrooms.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 20 00 – PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Scope of Payment
- C. Payment for Increased or Decreased Quantities
- D. Omitted Items
- E. Progress Payments
- F. Payment for Material Delivered
- G. Measurement of Quantities
- H. Incidental Work

1.2 DESCRIPTION

- A. All payment specifications set forth in the Agreement shall be complied with unless otherwise specified herein.
- B. Unless otherwise specified, for lump-sum items, payment will be made as set forth in the Agreement on the basis of actual Work completed in accordance with the Contractor submitted Schedule of Values and agreed to by the Owner.
- C. For certain lump sum payment items, estimated quantities have been provided within and in the attachments to the Specifications. These quantity estimates are provided to the Contractor for reference purposes only. Contractor is responsible for confirming all quantities for these lump sum items. No adjustment to the lump sum payment items will be made on the basis of quantity variation.
- D. For unit-price items, payment will be based on the actual amount of Work accepted by the Owner and for the actual quantity of materials in place and accepted in conformance with the Contract Documents, as shown by final measurement.
- E. All units of measurement shall be standard United States convention as applied to the specific items of Work by tradition and as interpreted by the Engineer. Payment units will be as indicated on the Bid Form.

1.3 SCOPE OF PAYMENT

- A. Payments to Contractor will be made for the actual quantities of the Agreement items performed and accepted by the Owner in accordance with the Contract Documents. Upon completion of the Work, if these actual quantities show either an increase or decrease from the quantities given in the Bid Form, the Contract Unit Prices will still prevail, except as provided hereinafter.
- B. Contractor shall accept in compensation, as herein provided, in full payment for furnishing all labor, materials, services, insurance, tools, taxes, equipment, temporary facilities and utilities, and incidentals necessary to complete the Work

and for performing all Work contemplated and embraced by the Agreement; also for all loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the Work, except as provided herein, also for all expenses incurred in consequence of the suspension of the Work as herein authorized.

- C. The payment of any progress estimate or of any retained percentage except by and under the approved final invoice, in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damage due to such defects.
- D. Unless otherwise approved by the Owner, payment in excess of any lump sum price items will not be made.

1.4 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

- A. Except as otherwise described herein, when alterations in the quantities of Work not requiring supplemental agreements, as herein provided for, are ordered, and performed, Contractor shall accept payment in full at the Contract Price for the actual quantities of Work done. No allowance will be made for anticipated profits. Increased or decreased Work involving supplemental agreements will be paid for as stipulated in such agreements.

1.5 OMITTED ITEMS

- A. Should any items contained in the Bid Form be found unnecessary for the proper completion of the Work contracted, Owner may eliminate such items from the Agreement, and such action shall in no way invalidate the Agreement, and no allowance will be made for items so eliminated in making final payment to Contractor.

1.6 PROGRESS PAYMENTS

- A. Progress payments shall be made monthly as the Work progresses in accordance with the Agreement. All progress invoices and payments shall be subject to correction in the final quantity invoice and payment.
- B. No monthly payment shall be required to be made when, in the judgment of Owner and/or the Engineer, the Work is not proceeding in accordance with the provisions of the Contract Documents, or when, in his judgment, the total value of the Work performed since the last payment amounts to less than \$1,000.00.

1.7 PAYMENT FOR MATERIAL DELIVERED

- A. Payment shall not be made for materials and equipment not incorporated into the Work.
- B. No progress payment shall be made upon fuels, supplies, lumber, false Work, or other materials, or on temporary structures of any kind which are not a permanent part of the Agreement.

1.8 MEASUREMENT OF QUANTITIES

- A. Measurement by Area. Measured by square dimensions using mean length and width or radius.
- B. Measurement by Linear Measurement. Measured by linear dimension, at the item centerline or mean chord.

1.9 INCIDENTAL WORK

- A. Incidental Work items for which separate payment is not measured include, but are not limited to, the following items:
 - 1. All work plans and submittals not specifically included in the Contract Pay Items.
 - 2. Cooperation with the Owner, Engineer, school officials, and Building officials/inspectors.
 - 3. Obtaining, maintaining, and compliance with all required permits and notifications including any associated fees.
 - 4. Testing of construction materials.
 - 5. Project Record Documents.
 - 6. Materials handling and management.
 - 7. Disposal of all rubbish and trash.
 - 8. Procurement and coordination of subcontractors.
 - 9. Protecting and maintaining all existing utilities to the building.
 - 10. Protecting, as necessary, all equipment and materials from adverse weather affects.
 - 11. Attendance at all project meetings per Section 01 31 19 – Project Meetings.
 - 12. Repair of any damage to the school property as a result of the Contractor's Work.
 - 13. Maintaining the safety of operations during the Work.
 - 14. Compliance with all federal, State, and local regulations and requirements.
 - 15. Site housekeeping/Clean-up.
 - 16. All other Work indicated in these Contract Documents and not specifically listed among the Contract Payment Items described herein.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.1 SECTION INCLUDES

- A. Contract Pay Items
- B. Items and Basis for Measurement and Payment

3.2 CONTRACT PAY ITEMS

- A. The purpose of this section is to define the method of measurement and payment for each of the items included on the Bid Form provided in Section 00 41 00 – Bid Form.
- B. Contractor shall be carefully acquainted with all work associated with each payment item and shall have no claim for any unfamiliarity with the requirement of various items.

3.3 ITEMS AND BASIS FOR MEASUREMENT AND PAYMENT

The items described below and presented on the Bid Form constitute all items to be specifically paid under this Agreement.

A. GENERAL

Item No. 1 – Performance and Payment Bond

- 1. Work Included
Furnish performance and payment bonds consistent with the Agreement between the Town of Killingworth and the Contractor.
- 2. Measurement
The Work required for this item will be measured based on the receipt of the required performance and payment bonds.
- 3. Payment
Payment for this Lump-Sum item will be made subsequent to receipt of the required performance and payment bonds.

Item No. 2 – Submittals

- 1. Work Includes
Preparation and submittal of all required Submittals consistent with these Specifications including those outlined in Table A of Section 01 33 00 – Submittal Procedures. All other submittals required by the Specifications but not specifically listed in Table A are considered incidental to this payment item.
- 2. Measurement
The Work required for this item will be measured on the basis of acceptance of all Submittals by the Engineer as required by the Specifications.

1. Payment

Forty (40) percent of the Lump-Sum price for this item will be paid following Engineer approval of the submittals that are due within 7 days after Notice to Proceed. Thirty (30) percent of this Lump Sum payment item will be made incrementally on a monthly basis based on the estimated total monthly project duration, consistent with the Engineer approved Progress Schedule. The final thirty (30) percent payment will be made upon Engineer approval of project closeout submittals in accordance with Specification Section 01 77 00 – Closeout Procedures.

Item No. 3 – Mobilization

1. Work Included

a. Office-Based Activities – This component of mobilization includes, but is not limited to, the following:

- 1) Insurance.
- 2) Identification and acquisition of all permits and notifications that may be necessary for the completion of the project.
- 3) Procurement and coordination of subcontractors and equipment necessary to perform the Work.
- 4) Compliance with all federal, State, and local regulations and requirements.
- 5) All other office and administration services necessary to support the Contractor's activities for the duration of the project.

b. Field-Based Activities – This component includes support/operational/maintenance activities required of Contractor during the execution of the Agreement including, but not limited to, mobilization of all personnel, equipment, and materials, including porta-lets to the Site.

2. Measurement

The Work required for this item will be measured on the basis of satisfactory evidence of mobilization of sufficient labor, equipment, and material to adequately advance the Work.

2. Payment

The Lump-Sum Price for Mobilization shall be payment for all labor, equipment, material, and other incidentals mobilized to the Site and considered normal for administration of the Work. **The Lump Sum Price is a one-time charge.** Additional mobilization charges will not be allowed under this item. Payment will be made once the Contractor has physically occupied the Site, the pre-construction conference has been held, Work and material delivery schedules have been approved, permits and notifications

have been obtained, sufficient labor, equipment, and material to adequately progress the Work of this Agreement are in place, and the Contractor has started the Work. *Payment for Mobilization is also contingent upon Engineer acceptance of Work Plan and Submittals due within 7 and 14 days after Notice to Proceed. In no case shall the value of this Bid item be greater than 10% of the total Bid price.*

Item No. 4 – Supply and Installation of Treatment System Components

1. Work Included

All labor, equipment, and materials associated with supply and installation of the treatment system equipment within the MBR in accordance with the Specifications and as shown on the Drawings, including, but not limited to the following:

- a. Procurement and delivery of the treatment system equipment (mineral tanks, UV sterilizer, sediment filters, and FR exchange tanks) and pneumatic tank to the Site.
- b. Staging of the treatment system equipment (mineral tanks, UV sterilizer, sediment filters, and FR exchange tanks) and pneumatic tank within the MBR including implementation of the measures to protect the flooring within the hallway directly outside of the MBR.
- c. Construction of a support wall within the MBR to mount certain components of the treatment system equipment.
- d. Supply and installation of all piping, fittings, valving, gauges, flowmeters, flow controllers, sample ports, pipe supports, and hangers to connect the treatment system equipment and pneumatic tank as shown on the Drawings.
- e. Supply and installation of granular activated carbon in the FR exchange tanks as specified in the design.
- f. Supply and installation of calcite in the mineral tanks, as specified in the design.
- g. Supply of one (1) case of micron sediment filters, in addition to the those specified in the design.

2. Measurement

The work required for this item will be measured on the basis of satisfactory installation of the treatment system equipment and interconnected conveyance piping as shown on the Drawings.

3. Payment

Payment for Lump Sum items will be made consistent with the Engineer approved Schedule of Values.

Item No. 5 – Supply and Installation of Piping

1. Work Included

All labor, equipment, and materials associated with supply and installation of new piping to: (1) connect the KES#2 water supply line from the wellhead to the POET; (2) extend a new treated water conveyance pipe from the MBR to the Boiler Room, and connect the new treated water supply, from the POET, to the existing fiberglass reinforced UST; (3) connect the KES#1 wellhead to the existing piping for KES#2 in the Boiler Room; and (4) connect the KES#1 piping (formerly KES#2 piping) to the POET system in accordance with these Specifications and as shown on the Drawings, including, but not limited to the following:

- a. Supply and installation of all piping, fittings, valving, pipe supports, hangers, etc. to extend and connect the existing piping from the KES#2 wellhead to the treatment system equipment as shown on the Drawings.
- b. Supply and installation of all piping, fittings, pipe supports, and hangers to extend the treated water from the MBR within drop ceilings and/or pipe chases and through walls to the maintenance boiler room in the lower level of the original building.
- c. Supply and installation of insulation on all piping.
- d. Creating openings in building walls as necessary to extend new piping from the MBR to the Boiler Room. Work includes supply and installation of fire stops consistent with all codes and ordinances.
- e. Extending piping under the courtyard within an existing 4-inch PVC carrier pipe. Work includes supply and installation of a link seal on both ends of the sleeve.
- f. Repair to KES #1 well, either
 - 1) Sanding the exposed outer steel casing of and re-paint and supply a sleeve to a depth below the water table from top of casing, or
 - 2) Remove concrete around the well casing dig down below the corroded interior pipe (or to water table), cut the casing and reinstall a new section of casing to the original height. This will require the removal of the well pump.
- g. Supply and installation of all piping, fittings, pipe supports, and hangers to connect the KES#1 wellhead to the existing piping for KES#2 in the Boiler Room.
- h. Supply and installation of all piping, fittings, pipe supports, and hangers to connect the KES#1 piping to the treatment system equipment in the MBR.

2. Measurement

The work required for this item will be measured on the basis of satisfactory installation of the new piping as shown on the Drawings and sanding of the steel casing of the KES#1 wellhead.

3. Payment

Payment for Lump Sum items will be made consistent with the Engineer approved Schedule of Values.

Item No. 6 – Testing and Flushing

Work Included

1. All labor, equipment, and materials associated with: (1) hydrostatically pressure testing the new piping extending from the MBR to the Boiler Room to demonstrate the piping is leak free (Division 01 11 00) and (2) flushing a minimum of 200-gallons of water through the treatment system to demonstrate the treatment system is removing the contaminants in accordance with the Specifications (Division 01 11 00) and all building and plumbing codes. Work includes coordination with the Engineer to oversee and document the testing results; locating, identifying, and repairing any leaks; and retesting until the piping and treatment systems are leak free and operating as designed.

2. Measurement

The Work required for this item will be measured on the basis of satisfactory completion of a hydrostatic pressure test demonstrating that the piping system is leak free and testing of the treated water by the Engineer demonstrating the treatment system is removing the contaminants to levels below the DWALs.

3. Payment

Payment for this Lump Sum item will be made consistent with the Engineer approved Schedule of Values.

Item No. 7 – Demobilization

1. Work Included

All labor, equipment, and materials necessary for the performance of Site clean-up activities and demobilization including but not limited to, the following:

- a. Removal of all equipment, materials, and debris/solid waste in accordance with Section 01 74 00 – Final Cleaning.
- b. Demobilization of personnel, equipment (including cleaning), and materials from the Site.
- c. Contract Closeout in accordance with the Agreement between the Town of Killingworth and the Contractor and Section 01 77 00 – Closeout Requirements.

- d. Provide an “As-Built” of the POET and conveyance piping including photos of the constructed system.

2. Measurement

The Work required for this item will be measured on the basis of satisfactory evidence that Site clean-up and demobilization has been completed, including but not limited to the following:

- a. Demobilization of equipment and materials from the Site.
- b. Provision of Record Documents.

3. Payment

The Lump-Sum Price for Site clean-up and demobilization shall be full compensation for the removal of all labor, material, equipment, and other incidentals required to comply with the Drawings and Specifications.

END OF SECTION

SECTION 01 31 19 - PROJECT MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Pre-Construction Meeting
- C. Construction Period Meetings
- D. Close-Out Meeting
- E. Contact Information

1.2 DESCRIPTION

- A. This Section provides the general requirements for project coordinating/communications and managing the activities necessary to complete the installation of the point-of-entry treatment system design (Work).

1.3 PRE-CONSTRUCTION MEETING

- A. Engineer will schedule and conduct one pre-construction meeting prior to the commencement of any Work at the Site. At a minimum, Contractor and all key subcontractors shall attend the meeting, which will be held at the Town of Killingworth's First Selectman's office at Killingworth Town Hall, 323 Route 81, Killingworth CT. The Engineer will prepare and distribute an agenda for this Pre-Construction Meeting and will also prepare the meeting summary/minutes.
- B. Contractor shall update the Preliminary Project Schedule submitted with the Bid for distribution and discussion during the Pre-Construction Meeting.
- C. Anticipated Agenda:
 - 1. Bonds and insurance certificates.
 - 2. Distribution of Contract Documents.
 - 3. List of subcontractors, list of products, schedule of values, and schedule,
 - 4. Designation of personnel representing parties in Contract and Engineer.
 - 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 6. Permits and approval status.
 - 7. Sequence of work.
 - 8. Use of premises.
 - 9. Construction facilities and controls.
 - 10. Application for payment procedures.

11. Communications.
 12. Schedule for Construction Period Meetings
 13. Interactions with the Public.
- D. Engineer will record minutes and distribute copies to participants within five business days after meeting.

1.4 CONSTRUCTION PERIOD MEETINGS

- A. The Contractor, the Engineer, and the Owner shall participate in periodic meetings during the Work at a frequency agreed to during the Pre-Construction Meeting. The anticipated agenda for these meetings shall include: project status, outstanding issues, project implementation issues, and overall schedule. School officials may also elect to attend these construction meetings.
- B. Contractor shall be responsible for drafting minutes of each meeting and providing the Engineer with a draft of the meeting minutes no later than 48-hours after the meeting. Engineer will review the draft and provide comments/edits to the Contractor. Contractor shall modify and distribute a final version of the meeting minutes to the Owner and Engineer prior to the subsequent meeting.

1.5 CLOSE-OUT MEETING

- A. Engineer will schedule and conduct one project close-out meeting with the Contractor prior to the demobilization of the Contractor from the Site. Contractor and all key subcontractors shall attend. Owner may also elect to attend this meeting.

1.6 CONTACT INFORMATION

- A. Contractor shall establish and maintain contact information including email addresses for the Contractor's project managers and project Site superintendents. The Contractor's project manager and site superintendent shall have available and maintain phone, email, and internet access at the Site.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Submittal Requirements
- C. Submittal Review
- D. Work Plans
- E. Shop Drawing Samples
- F. Test Results and Certification
- G. Submittal Register

1.2 DESCRIPTION

- A. This Section includes requirements for administrative and Work-related submittals such as progress schedules, work plans, shop drawings, equipment cutsheets, equipment manuals, test results, and other submittals required by the Contract Documents.
- B. Contractor shall submit required materials for the Engineer's review in accordance with the Agreement. The Submittal List (Table A) includes a Schedule of Submittals that is required to be submitted following issuance of the Notice to Proceed.

1.3 SUBMITTAL REQUIREMENTS

- A. Required submittals are listed in Table A - Submittal List at the end of this Section.
- B. Deliver the required copies of the submittals to the Owner and Engineer within the required time frames.
- C. Contractor shall submit by electronic mail, or if not possible, deliver paper 3 copies of the required submittals to the Owner and Engineer in accordance with the following:
 - 1. Provide a separate submittal for each Specification requiring submittals. Where multiple Specifications relate to the same system or element and are being provided from the same source, a single combined submittal is acceptable.
 - 2. Coordinate submission of related items. Group submittals of related products in a single transmission.
 - 3. Include all submittal material requested for each Specification.

4. Identify variations from requirements of Contract Documents. State product and system limitations which may adversely affect Work.
 5. Mark or show dimensions and values in same units as specified.
- B. The Engineer’s review will only be for compliance with the design concept of the project and for compliance with the information given in the Contract Documents, not extending to means, methods, techniques, sequences, or procedures of construction (except where a specific means, method, technique, sequence, or procedure of construction is indicated in or required by the Contract Documents), or to standards, codes, or regulations, or to safety precautions or programs incident thereto.
- C. Contractor shall develop a submittal schedule to include an Engineer review period of 5 days for each pre-construction submittal or revision thereof, and 2 days for all other submittals of revision thereof. All pre-construction submittals shall be submitted in one package. Revisions shall be submitted in redline/strikeout.
- D. Contractor must adhere to approved submittals; deviation from the approved submittals must be pre-approved by the Engineer in writing.
- E. Contractor responsibilities:
1. Review submittals prior to transmittal. Verify compatibility with field conditions and dimensions, product selections and designations, quantities, and conformance of submittal with requirements of the Contract Documents. Return non-conforming submittals to the preparer for revision rather than submitting for review by the Engineer.
 2. Coordinate submittals to avoid conflicts between various items of Work.
 3. Submittal transmittal form: Include with each submittal a transmittal form which clearly identifies the submittal name, Specification section name and number, preparer, and date submitted. Each submittal form shall also include a unique tracking number.
 4. Incomplete, improperly packaged, and submittals from sources other than Contractor will not be accepted.
 5. For each submittal, Contractor must clearly identify any proposed substitutions for materials or modifications to the procedures specified in the Contract Documents.
- H. Transmittal: Where possible, transmit all submittals electronically via electronic mail. Where electronic submittal is not possible, submit 3 paper copies for Engineer review.
- I. Re-submission:

1. Revise and re-submit submittals as required within 5 days of return from initial review.
2. Make re-submittals under procedures specified for initial submittals.
3. Identify all changes made since previous submittal.
4. Re-submittals shall include the original tracking number with a letter designation such as “A” for the first re-submittal or “B” for a second re-submittal.

1.4 SUBMITTAL REVIEW

- A. Engineer will review submittals for sole purpose of verifying general conformance with design intent and compliance with Contract Documents. Approval of submittal by Engineer does not relieve Contractor of responsibility for correcting errors which may exist in a submittal or from meeting the requirements of the Contract Documents or Building/Plumbing Codes.
- B. Review time: Initial review will be performed by the Engineer within 5 days of receipt. Engineer reserves right to withhold action on a submittal that requires review of related submittals before said submittal can be approved until related submittals are received. Additional time will be required if processing must be delayed permitting review of related subsequent submittals.
- C. Review actions: After review, Engineer will return submittals marked as follows to indicate action taken:
 1. Approved: Part of Work covered by submittal may proceed provided it complies with requirements of Contract Documents. Final acceptance will depend upon that compliance. The term “Approved” shall only indicate that there is no exception taken to the submittal.
 2. Approved except as noted: Part of Work covered by submittal may proceed provided it complies with notations and corrections on submittal and requirements of Contract Documents. Final acceptance will depend upon that compliance.
 3. Not approved, revise and resubmit: Do not proceed with part of Work covered by submittal including purchasing, fabricating, and delivering. Revise or prepare new submittal in accordance with notations and resubmit.
- D. Contractor must adhere to approved submittals; deviations from the approved submittals must be pre-approved by the Engineer in writing. After submittals have been approved by the Engineer, no re-submittal for the purpose of substituting materials or equipment will be given consideration unless accompanied by an explanation as to why a substitution is necessary.

- E. Submittals processed by the Engineer do not become Contract Documents and are not to be considered Change Orders; the purpose of a submittal review is to establish a reporting procedure and is intended for the Contractor's convenience in organizing the work and to permit the Engineer to monitor the Contractor's progress and understanding of the design. Review, acceptance, or approval of submittals shall not add to the Contract amount and additional costs which may result shall be solely the obligation of the Contractor.
- F. Engineer may request submittals in addition to those listed when deemed necessary to adequately describe the work covered in the respective sections.
- G. Contractor shall direct inquiries to the Engineer regarding the procedure, purpose, or extent of any submittal if clarifications are required prior to submittal to avoid delays in approval.
- H. Submittals requiring Engineer approval shall be scheduled and made prior to acquisition of the material or equipment covered thereby or before any work described is initiated. No delays, damages, or time extensions will be allowed for time lost in late submittals.

1.5 WORK PLANS

- A. Contractor shall prepare and submit an electronic copy of the required plans as listed in Table A to the Owner and Engineer for review within the timeframe indicated on Table A.
- B. Work relevant to the individual plans shall not be performed until the plan has been approved by the Engineer.
- C. Each section of each plan shall be indexed separately and referenced by a Table of Contents and all pages shall be numbered.

1.6 SHOP DRAWINGS AND SAMPLES

- A. Shop Drawings, product data, and samples shall be submitted by the Contractor as required in individual specification sections and summarized in Table A – Submittal List included at the end of this Specification.
- B. Where required by Specifications or otherwise needed, the Contractor shall prepare drawings illustrating the portion of Work for use in fabricating, interfacing with other work, and installing products. Drawings shall not be reproduced and submitted as Shop Drawings.
- C. Electronic Format:
 - 1. Size printable to: 8-1/2 by 11 inches minimum and 24 by 36 inches maximum.
 - 2. Present in a clear and thorough manner. Title each drawing with Project name. Identify each element of drawing with reference number.

- D. Contractor's Responsibilities:
1. Review Shop Drawings, product data, and samples prior to submittal.
 2. Determine and verify:
 - a. Field measurements
 - b. Field construction criteria
 - c. Catalog numbers and similar data
 - d. Conformance with Specifications
 3. Coordinate each submittal with requirements of the Work and Contract Documents
 4. Notify the Engineer in writing, at the time of the submittal, of deviations from requirements of Contract Documents.
 5. Begin no fabrication or Work requiring the submittals until return of the submittals with the Engineer's approval/comments.
 6. Designate in the construction progress schedule, dates for submittal and receipt of reviewed Shop Drawings and samples.
- E. Submittals shall contain:
1. Date of submittal and dates of previous submittals
 2. Project title and number
 3. Contract identification
 4. Names of:
 - a. Contractor(s)
 - b. Supplier
 - c. Manufacturer
 5. Summary of items contained in the submittal.
 6. Identification of the product with identification numbers, and the Drawing and Specification section numbers
 7. Clearly identified field dimensions
 8. Details required on the Drawings and in the Specifications
 9. Manufacturer, model number, dimensions, and clearances, where applicable
 10. Relation to adjacent or critical features of the Work or materials
 11. Applicable standards, such as ASTM or Federal Specification numbers
 12. Identification of deviations from Contract Documents
 13. Identification of revisions on re-submittals

14. The Contractor’s stamp, signed, certifying to review of the submittal, verification of the products, field measurements, field construction criteria, and coordination of information within the submittal with requirements of Work and Contract Documents.
- F. Re-submittal Requirements:
1. Corrections or changes in submittals required by the Owner or Engineer. Re-submittals are required until all comments by the Owner or Engineer are addressed. All changes made in the re-submittal must be documented and must also indicate any changes made other than those requested by the Owner or Engineer.
 - a. Revisions will be submitted in redline/strikeout for review. Final approved submittals shall be provided without redline/strikeout.
 2. Shop Drawings and Product Data:
 - a. Revise initial drawings or data and resubmit as specified for initial submittal
 - b. Indicate changes made other than those requested by the Owner or Engineer
- G. Distribute reproductions of Shop Drawings and copies of product data which have been accepted by the Owner to the following files:
1. Job site
 2. Record documents file

1.7 TEST RESULTS AND CERTIFICATION

- A. Hydrostatic pressure testing results in accordance with the Specifications.
- B. Certification test results and certification of products shall be submitted for review so they may be included in the project record.
- C. Water quality data meeting criteria listed on Table 1.

1.8 SUBMITTAL REGISTER

- A. Contractor shall provide a submittal register outlining required submittals as listed in Table A – Submittal List. The submittal register shall include dates of submittals and re-submittals as well as a corresponding identification number for each submittal. An updated submittal register shall be submitted with each submittal and re-submittal document.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

TABLE A - SUBMITTAL LIST

The following represents the list of project submittals. If additional submittals are identified in the Contract Bid Documents, they should be brought to the attention of Owner and Engineer.

Submittal	Submittal Timeframe	Reference Section(s)(If Applicable)
Preliminary Progress Schedule	With Bid	
Bid Form	With Bid	
Bid Bond	With Bid	
Proposal Form	With Bid	
Legal Status Disclosure	With Bid	
Certification Concerning Equal Employment Opportunity and Affirmative Action Policy	With Bid	
Non-Collusion Affidavit	With Bid	
Statement of References	With Bid	
Performance and Payment Bond	With Signed Agreement	
Certificate of Insurance	With Signed Agreement	
Schedule of Submittals	Within 7 days after NTP	01 33 00
Schedule of Values	Within 7 days after NTP	01 20 00
Project Schedule	Before Pre-Construction Meeting	01 31 19
Copies of Current Licenses	Within 7 days after NTP	
Written Description of Hydrostatic Pressure Testing and Flushing Procedures	Within 7 days after NTP	
Identification of Hot Work (if any) and a written description of permits and controls necessary to perform Hot Work	Within 7 days after NTP	
Permits	7 days prior to commencement of work	
Draft Construction Period Meeting Minutes	Within 48 hours of the meeting	
Finalized Meeting Minutes	Prior to the subsequent construction period meeting	
Written documentation of regulatory inspections	10 A.M. the next workday	
Cutsheets/Shop Drawings	Within 7 days after NTP	
Results of hydrostatic pressure testing	Within 24 hours of the test	
Notice of Substantial Completion	When Contractor believes work is substantially complete.	01 77 00
Closeout Submittals: 1. Evidence of compliance with requirements of Agreement. 2. Operation/Owner's Manuals for all equipment 3. Release or Waiver of Liens 4. Request for Final Payment 5. Project Record Documents (includes As-Built) 6. Guarantees and Warranties	Within 10 days of receiving request from Engineer to make closeout submittals unless otherwise agreed to by Owner	01 20 00 01 77 00 01 78 39

NTP – Notice to Proceed.

SECTION 01 66 00 – PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Transportation and Handling
- C. Storage and Protection

1.2 DESCRIPTION

- A. This Section summarizes the Contractor's responsibilities related to the delivery and storage of materials necessary to complete the Work.

1.3 TRANSPORTATION AND HANDLING

- A. Contractor shall be responsible for delivery (or returns) of all materials and equipment necessary to perform the Work and shall pay all freight and handling charges for same, to/from the Site.
- B. All unloading, storing, and reloading necessary shall be the responsibility of the Contractor and shall be at the Contractor's expense (in designated laydown areas).
- C. No deliveries shall be made to the Site prior to 7 AM or while school is in session.

1.4 STORAGE AND PROTECTION

- A. All materials delivered to and used on the Site shall be suitably housed and protected. The areas to be used for storage shall be the MBR and the Boiler Room. The use of other areas for storage must be pre-approved by Owner and/or Engineer.
- B. Treatment system equipment, piping, and material shall be moved into the MBR through the stairwell directly adjacent to the MBR. Contractor shall be responsible for all costs associated with moving the equipment into the MBR through this stairwell at no additional cost to the Owner.
- C. Piping and material shall be moved into the Boiler Room through the stairwell within courtyard between the building sections. Contractor shall be responsible for all costs associated with moving the equipment into the Boiler Room through this stairwell at no additional cost to the Owner. Contractor's access into the Boiler Room from the stairwell is between two boilers.
- D. No materials or equipment shall be stored so as to interfere with the use of the Site by the public or Owner, of adjacent sidewalks and roads (both on and off site), unless special permission is obtained from the Town of Killingworth, school official, or other local authorities having jurisdiction and is pre-approved by the Owner and/or Engineer.
- E. All materials shall be delivered in original, undamaged, sealed containers which are to be unbroken and with labels plainly indicating manufacturer's name, brand, type, and grade.

- F. Owner assumes no responsibility for damage, deterioration, or theft of stored materials, equipment, tools, and supplies. Contractor shall assume full responsibility for the storage and protection of all materials brought to the Site. Materials which become damaged, deteriorated, destroyed, or stolen shall be repaired or replaced, at the discretion of Owner and/or Engineer, at no cost to Owner. Containers which are broken, opened, watermarked, or otherwise damaged and/or which contain unsuitable or damaged materials are unacceptable and shall be removed immediately from the Site.
- G. Site storage shall be conducted by the Contractor in accordance with the following:
 - 1. Interior Storage:
 - a. Interior storage areas shall be pre-approved by the Owner. .
 - b. Materials and equipment shall be stored in accordance with manufacturer's instructions, with seals and labels intact and legible.
 - c. Materials and equipment subject to damage by elements shall be stored in weathertight enclosures.
 - d. Temperature and humidity within ranges required by manufacturer's instructions shall be maintained.
 - 2. Exterior Storage:
 - a. Fabricated materials and equipment shall be stored above ground, on blocking or skids. Materials and equipment which are subject to deterioration shall be covered with impervious sheet coverings and provided with adequate ventilation to preclude the formation of condensation on such materials/equipment.
 - b. Materials such as pipes shall be stored on pallets or racks, off the ground.
 - 3. Storage shall be arranged in a manner to provide easy access for inspection and inventory. Periodic inspections of stored materials and equipment shall be made to ensure that materials and equipment are maintained under specified conditions and free from damage or deterioration.
- H. Contractor shall maintain on site, Safety Data Sheets (SDS) for all OSHA classified hazardous materials stored or used on-Site.
- I. Improper storage resulting in equipment damaged, is the responsibility of the Contractor and at no additional cost to the Owner.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 74 00 - FINAL CLEANING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. References
- C. Disposal Requirements

1.2 DESCRIPTION

- A. Contractor shall remove all debris (packing material, construction and plumbing waste, general trash, etc.) and perform all cleaning required as a result of the performance of the Work.
- B. Contractor shall perform routine cleaning throughout the duration of the project providing for neat, safe, and maintaining the project Site in well-organized manner.
- C. Final clean-up shall be performed by the Contractor to the satisfaction of the Engineer at the completion of the Work.

1.3 REFERENCES

- A. Agreement between the Town of Killingworth and the Contractor.

1.4 DISPOSAL REQUIREMENTS

- A. Contractor shall conduct cleaning and disposal operations to comply with all State, federal and local codes, ordinances, regulations, anti-pollution laws and these Specifications.

PART 2 PRODUCTS

2.1 SECTION INCLUDES

- A. Materials

2.2 MATERIALS

- A. Contractor shall use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Contractor shall use only those cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned.
- C. Contractor shall use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.1 SECTION INCLUDES

- A. Site Restoration
- B. Final Cleaning

3.2 SITE RESTORATION

- A. Contractor shall remove all construction material, equipment and other debris remaining on the Site as a result of the Work and shall restore the Site of the work to a neat and orderly condition.

3.3 FINAL CLEANING

- A. At completion, Contractor shall clean all Work areas related to the Agreement and remove from the Site all debris and waste material in compliance with these Specifications. Contractor shall then perform a general and final cleanup of the Site.
 - 1. Remove debris and packing material associated with the Work from the Site and the Work areas; and
 - 2. Prior to final completion, the Engineer shall view all Work areas to verify that the interior MBR, the Boiler Room, hallways, classrooms, and utility rooms are clean along with any exterior laydown areas or areas where work was performed. Contractor shall perform additional clean-up as necessary to satisfy the Engineer at no additional cost to the Owner.

END OF SECTION

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. Substantial Completion
- C. Final Inspection
- D. Re-Inspection Fees
- E. Request for Final Payment and Acceptance of the Work
- F. Guarantees and Warranty
- G. Final Adjustments of Accounts

1.2 DESCRIPTION

- A. This Section includes general administration and procedural requirements for Substantial Completion, Final Inspection, and Request for Final Payment and Acceptance of the Work.
- B. Closeout procedures shall be performed and administrated consistent with the conditions outlined in the Agreement.

1.3 SUBSTANTIAL COMPLETION

- A. Contractor shall complete all required tasks prior to providing Notice of Substantial Completion to the Owner.
- C. When Contractor considers the Work is substantially complete, Contractor shall submit to Owner, in writing:
 - 1. A notice that the Work is substantially complete.
 - 2. A list of items to be completed or corrected.
 - 3. A request that Owner issue a certificate of Substantial Completion.
- D. Owner will review the Work to determine the status of completion.
- E. Should Owner determine that the Work is not substantially complete:
 - 1. Owner will notify Contractor in writing, giving the reasons therefore.
 - 2. Contractor shall remedy the deficiencies in the Work and send a second written notice of Substantial Completion to Owner and Engineer.
 - 3. Owner will review the Work to determine status of completion.
- F. When Owner concurs that the Work is substantially complete, Owner will:
 - 1. Prepare and deliver to Contractor a Certificate of Substantial Completion, accompanied by list of items to be completed or corrected by Contractor as a precedent to final payment.

1.4 FINAL INSPECTION

- A. Prior to requesting final inspection, verify that all of the POET system and piping systems are leak free, the POET system is removing PFAS to concentration below the criteria listed on Table 1.0 (end of section), all debris has been removed from the Site, any damage to the school building or property is repaired, and ready for final payment. Owners Engineers will collect the water sample to verify concentrations are below Table 1.0, using EPA’s drinking water Method 533.
- B. When Owner finds that the Work is acceptable under the Contract Documents, Owner will request Contractor to provide closeout submittals.

1.5 RE-INSPECTION FEES

- A. Should Owner or Engineer have to view the Work more than once after Contractor notifies Owner that the Work is substantially complete or complete due to failure of the Work to comply with the claims of status of completion made by Contractor, Owner reserves the right to deduct re-inspection fees from the final payment to Contractor.

1.6 CONTRACTOR’S CLOSEOUT SUBMITTALS TO OWNER

- A. Contractor shall provide closeout submittals to Owner within 7 days of receiving the request from Owner to make closeout submittals unless otherwise agreed to by Owner.
- B. The following documentation shall be provided in the Closeout submittals:
 - 1. Project Record Documents as specified in Section 01 78 39 – Project Record Documents.
 - 2. Evidence of Payment and Release of Liens in connection with the requirements of the Agreement.
 - 3. Guarantees and Warranties.
 - 4. Bonds

1.7 REQUEST FOR FINAL PAYMENT AND ACCEPTANCE OF THE WORK

- A. Procedure:
 - 1. Submit request for final payment in accordance with the Agreement and using the procedures specified in Section 01 20 00 - Price and Payment Procedures and this Section.
 - 2. Acceptance of the Work:
 - a. Upon Owner’s receipt of the final Application for Payment, accompanied by other required Contract closeout documentation in accordance with the Contract Documents, Owner will issue to Contractor a notice of acceptability of the Work.
 - b. Nothing other than the receipt of such notice of acceptability from Owner constitutes acceptance of the Work.
 - c. Unless decided otherwise by Owner and Engineer, a form of acceptance will be EJCDC® C-626, "Notice of Acceptability of Work" (2014 edition).

3. If Owner deems final Application for Payment unacceptable, Owner will indicate in writing reasons for refusing to process final Payment and Contractor shall make all necessary corrections and resubmit final Application for Payment to Owner. Request for final payment shall include:
 1. Documents required for progress payments in Section 01 20 00 - Price and Payment Procedures.
 2. Documents required by the Agreement.
 3. List of all disputes that Contractor believes are unsettled.
 4. Consent of Surety to Final Payment:
 - a. Acceptable for includes AIA® G707TM, "Consent of Surety to Final Payment" (1994 of later edition), or other form acceptable to Owner.
 5. Release or Waivers of Lien Rights:
 - a. When submitting release or waivers of Lien rights, furnish release or waiver by Contractor and each Subcontractor and Supplier that provided Contractor, Subcontractor, or Supplier with labor, material, or equipment totaling \$1,000.00 or more from the Contract.
 - b. Furnish list of Subcontractors and Suppliers for which release or waiver of Lien is required, indicating final amount of the associated subcontract or purchase order for each. Include on the list all lower-tier Subcontractors and Suppliers retained by Subcontractors and Suppliers with direct subcontract or purchase order with Contractor.
 - c. Each release or waiver of Lien shall be signed by an authorized representative of the entity submitting release or waiver of Lien, and shall include Contractor's, Subcontractor's, or Supplier's (as applicable) corporate seal, when applicable.
 - d. Release or waiver of Lien may be conditional upon receipt of final payment.
 6. Affidavits:
 - a. In lieu of the release or waiver of Liens, Contractor may submit the following, for Contractor and each Subcontractor and Supplier that provided Contractor, Subcontractor, or Supplier with labor, material, or equipment totaling \$1,000.00 or more, to Owner's satisfaction:
 - 1) Affidavit of payment of debts and claims. Acceptable form includes AIA® G706TM, "Contractor's Affidavit of Payment of Debts and Claims" (1994 or later edition), or other forms acceptable to Owner, and;
 - 2) Affidavit of release of Liens. Acceptable form includes AIA® G706ATM, "Affidavit of Release of Liens" (1994 or later edition), or other form acceptable to Owner.
 - b. Each affidavit furnished shall be signed by an authorized representative of the entity furnishing the affidavit, and shall include Contractor's, Subcontractor's, or Supplier's (as applicable) corporate seal, when applicable.

7. Evidence satisfactory to Owner that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of Liens or other title defects, or will so pass upon final payment.

1.8 GUARANTEES AND WARRANTY

- A. **Contractor and its subcontractors shall guarantee that all Work under this Agreement shall be free from defects of labor and/or materials for a period of 1 year from date of final acceptance.** This guarantee is to be provided within the limitations of other guarantees or warranties in the Contract Documents. This requirement shall not expand or supersede any guarantees or warranties stated, implied, or offered or specified in these Contract Documents.
- B. Should any item supplied by Contractor be found defective, whether in design, workmanship, or materials, and providing the item has been utilized in accordance with generally accepted practice and in accordance with the conditions specified, Contractor shall, at his expense, correct all such defects without delay. If Contractor is obliged to correct such defects, the warranty for the repaired or replaced item shall extend for the same period as noted in the specification.
- C. If Contractor is unable or unwilling to repair or replace such defective part or parts within reasonable time after having received written notice from Owner, or if any emergency exists rendering it impossible or impracticable for Owner to notify Contractor to repair or replace the defective item, in all such cases Contractor shall reimburse Owner for the reasonable cost of replacing or repairing such defective items.
- D. Final payments are contingent upon Owner receipt of such guarantees and/or warranties from Contractor and subcontractors. Contractor shall require all subcontractors to make any repair or replacement necessary by reason of any defects in materials or workmanship, or failure to meet the requirement of the specifications, which may develop within one year from date of final payment.

1.9 FINAL ADJUSTMENTS OF ACCOUNTS

- A. Contractor shall submit a final statement of accounting to Owner.
- B. Such final statement shall reflect all adjustments to the Contract Sum:
 1. The original Contract Sum.
 2. Additions and deductions resulting from:
 - a. Previous change orders.
 - b. Unit prices.
 - c. Deductions for incorrect Work.
 - d. Deductions for re-inspection payments.
 - e. Other adjustments.
 3. Total Contract Sum, as adjusted.
 4. Previous payments.
 5. Sum remaining due.

- C. Owner will prepare a final Change Order, reflecting approved adjustments to the Contract Sum, which were not previously made by Change Orders.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

Table 1.0		
CT Drinking Water Action Level (DWAL)	CTDPH DWAL (ng/L)	EPA's MCLs (ng/L)
6:2 chloropolyfluoroether sulfonic acid (6:2 Cl-PFESA, 9Cl-PF3ONS (F-53B major))	2	
8:2 chloropolyfluoroether sulfonic acid (8:2 Cl-PFESA, 11Cl-PF3OUdS (F-53B minor))	5	
Perfluorooctane sulfonic acid (PFOS)	10	4
Perfluorononanoic acid (PFNA)	12	10
Perfluorooctanoic acid (PFOA)	16	4
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	19	10
Perfluorohexane sulfonic acid (PFHxS)	49	10
Perfluorohexanoic acid (PFHxA)	240	
Perfluorobutane sulfonic acid (PFBS)	760	
Perfluorobutanoic acid (PFBA)	1,800	
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS		1 (unitless) Hazard Index (HI) ¹

$$HI = \text{Hazard Index} = ([\text{GenXwater}]/[10 \text{ ppt}]) + ([\text{PFBSwater}]/[2000 \text{ ppt}]) + ([\text{PFNAwater}]/[10 \text{ ppt}]) + ([\text{PFHxSwater}]/[10.0 \text{ ppt}])$$

Compliance will require meeting either the CT DWAL or EPSS MLC which ever is lower.

END OF SECTION

SECTION 01 78 00- PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description
- B. References
- C. Submittals
- D. Maintenance of Documents
- E. Recording

1.2 DESCRIPTION

- A. Work includes all labor, equipment and materials required to keep accurate Record Documents (including photos) for the Work and all additions, substitutions of material, variations in Work and any other additions or revisions to the Agreement.
- B. This Section includes administrative and procedural requirements for Record Documents.

1.3 REFERENCES

- A. Agreement between the Town of Killingworth and the Contractor.

1.4 SUBMITTALS

- A. Work includes keeping accurate record documents for the Work and all additions, substitutions of material, variations in Work and any other additions or revisions to the Agreement.
 - 1. All record documents required for the Work as described herein.
- B. Operation/Owner's Manuals for each piece of treatment system equipment.

1.5 MAINTENANCE OF DOCUMENTS

- A. Maintain at Site, one copy of:
 - 1. Contract Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Permits and Approvals
 - 5. Reviewed Submittals
 - 6. Change Orders
 - 7. Any other modifications to the Contract
 - 8. Engineer's field orders or written instructions

9. Field Testing Results/Reports
 10. Material Delivery Receipts and Tickets
 11. Photos of work product with description and general location.
- B. Maintain all documents in clean, dry, legible condition.
 - C. Do not use record documents for construction purposes.
 - D. Make all documents available at all times for inspection by Engineer.

1.6 RECORDING

- A. Label each document "PROJECT RECORD" in large printed letters.
- B. Keep record documents current and do not permanently conceal or cover any installed project components until required information has been recorded.
- C. Drawings; legibly mark up to record actual construction:
 1. Field changes of dimension and detail
 2. Changes made by Field Order or by Change Order
 3. Details not on original Contract Drawings
- D. Specifications and Addenda; legibly mark up each Section to record:
 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 2. Changes made by Change Order or Field Order.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

Specification Documents

Division 022

SECTION 22 05 00 - COMMON WORK RESULTS FOR PLUMBING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Alignment guides and anchors.
2. Expansion fittings.
3. Sleeves without wasterstop.
4. Grout.
5. Silicone sealants.
6. Pressure gauges, dial type, lead free.
7. Gauge attachments, lead free.
8. Test plugs, lead free.

B. Related Requirements:

1. Section 22 11 19 - Domestic Water Piping Specialties

1.2 DEFINITIONS

A. Existing Piping to Remain: Existing piping that is not to be removed and that is not otherwise indicated to be removed and salvaged dispose of, or removed and reinstalled. These pipes include but are not limited to: 1) the existing piping through KES from the MBR to the Boiler Room associated with KES#2, 2) the piping to the UST storage tank, and 3) piping from KES#2 to the MBR.

B. New Piping to be Installed: New piping that will be installed as part of the work includes but is not limited to: 1) piping to connect KES#2 to the POET system, 2) the piping between POET system components, 3) connection of the POET system to the KES#2 pneumatic tank, 4) piping from the POET system in the MBR to the UST storage tank, 5) piping to connect KES#1 to the existing KES#2 pipe in the Boiler Room, and 6) all other piping required for an operable treated water supply system to the school.

1.3 ACTION SUBMITTALS

A. Product Data:

1. For each type of product.
 - a. Include construction details, material descriptions, and dimensions of individual components, and finishes.
 - b. Include operating characteristics and furnished accessories.

B. Delegated Design Submittals: For each anchor/guide and expansion joint assembly, including analysis data, signed and sealed by a qualified professional engineer engaged by the Contractor and responsible for their preparation.

1. Design Calculations: Calculate requirements for thermal expansion of piping systems and for selecting and designing expansion joints, loops, and swing connections.
2. Anchor Details: Detail fabrication of each anchor indicated. Show dimensions and methods of assembly and attachment to building structure.
3. Alignment Guide Details: Detail field assembly and attachment to building structure.
4. Schedule: Indicate type, manufacturer's number, size, material, pressure rating, end connections, and location for each expansion joint.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For each type of expansion joint, and gauge to include in operation and maintenance manuals.

1.6 COORDINATION

- A. Coordinate with the work of other trades and equipment packages.

PART 2 - PRODUCTS

2.1 MOTORS - NOT USED

2.2 EXPANSION FITTINGS FOR PLUMBING PIPING

- A. Performance Requirements:

1. All products used for the scope of this project are to be certified as PFAS-free.
2. Domestic water expansion fittings and loops for plumbing piping intended to convey or dispense water for human consumption are to comply with the U.S. Safe Drinking Water Act, with requirements of authorities having jurisdiction, and with NSF 61 and NSF 372, or be certified in compliance with NSF 61 and NSF 372 by an ANSI-accredited third-party certification body, in that the weighted average lead content at wetted surfaces is less than or equal to 0.25 percent.
3. Compatibility: Provide products suitable for piping service fluids, materials, working pressures, and temperatures.
4. Capability: Provide products and installations to accommodate maximum axial movement as calculated by the delegated design professional.

- B. Grooved-Joint Expansion Joints, Lead Free:

1. Source Limitations: Obtain grooved-joint expansion joints from single manufacturer.
2. Description: Factory-assembled expansion joint made of several grooved-end pipe nipples, couplings, and grooved joints.
3. Standard: AWWA C606, for grooved joints.

4. Material: ASTM A53/A53M, Schedule 40 stainless steel pipe with grooved ends.
Couplings: Quantity as determined by the delegated design professional, ASTM A312/A312M ductile-iron flexible type for stainless steel pipe dimensions. Include ferrous housing sections, Grade E EPDM rubber gasket or Grade P fluoroelastomer blend gasket, and SS bolts, nuts and washers.

C. Alignment Guides and Anchors:

1. Alignment Guides

- a. Source Limitations: Obtain alignment guides from single manufacturer.
- b. Description: Steel, factory-fabricated alignment guide, with bolted two-section outer cylinder and base for attaching to structure; with two-section guiding slider for bolting to pipe. Provide dielectric spacer for use with copper tubing/piping.

2. Anchor Materials:

- a. Steel Shapes and Plates: ASTM A36/A36M.
- b. Bolts and Nuts: ASME B18.10 or ASTM A183, steel hex head.
- c. Washers: ASTM F844, steel, plain, flat washers.
- d. Mechanical Fasteners: Insert-wedge-type stud with expansion plug anchor for use in hardened portland cement concrete, with tension and shear capacities appropriate for application.
 - 1) Stud: Threaded, Stainless steel.
 - 2) Expansion Plug: Stainless steel.
 - 3) Washer and Nut: Stainless steel.

2.3 SLEEVES AND SLEEVE SEALS

A. Sleeves without Waterstop:

1. Cast-Iron Pipe Sleeves: Cast or fabricated of cast or ductile iron, with plain ends.
2. Steel Pipe Sleeves: ASTM A53/A53M, Type E, Grade B, Schedule 40, hot-dip galvanized, with plain ends.
3. Steel Sheet Sleeves: ASTM A653/A653M, 24 gauge minimum thickness; hot-dip galvanized, round tube closed with welded longitudinal joint.
4. PVC Pipe Sleeves: ASTM D1785, Schedule 40.

B. Grout:

1. Description: Nonshrink, for interior and exterior sealing openings in non-fire-rated walls or floors.
2. Standard: ASTM C1107/C1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
3. Design Mix: 5000 psi, 28-day compressive strength.
4. Packaging: Premixed and factory packaged.

C. Silicone Sealants:

1. Silicone Sealant, S, NS, 25, NT: Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant.
 - a. Standard: ASTM C920, Type S, Grade NS, Class 25, Use NT.
2. Silicone Sealant, S, P, T, NT: Single-component, 100/50, pourable, plus 100 percent and minus 50 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant.
 - a. Standard: ASTM C920, Type S, Grade P, Class 100/50, Uses T and NT.

2.4 METERS AND GAUGES FOR PLUMBING PIPING

A. Pressure Gauges, Dial Type, Lead Free - Direct Mounted, Metal Case:

1. Source Limitations: Provide gages from a single manufacturer.
2. Standard: ASME B40.100.
3. Case: Sealed type; cast aluminum or drawn steel; 4-1/2-inch nominal diameter.
4. Pressure-Element Assembly: Lead-free Bourdon tube.
5. Pressure Connection: Lead-free brass, with NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe threads and bottom-outlet type unless back-outlet type is indicated.
6. Movement: Mechanical, with link to pressure element and connection to pointer.
7. Dial: Nonreflective aluminum with permanent scale markings graduated in psi.
8. Pointer: Dark-colored metal.
9. Window: Safety glass.
10. Ring: Metal.
11. Accuracy: Grade B, plus or minus 2 percent of middle half of span.

B. Gauge Attachments, Lead Free:

1. Snubbers: ASME B40.100, lead-free brass; with NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe threads and porous-metal-type surge-dampening device. Include extension for use on insulated piping.
2. Valves: Lead-free brass or stainless steel needle, with NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe threads.

C. Test Plugs, Lead Free:

1. Source Limitations: Provide lead-free test plugs from single manufacturer.
2. Description: Test-station fitting made for insertion into piping tee fitting.
3. Body: Lead-free brass or stainless steel with core inserts and gasketed and threaded cap. Include extended stem on units to be installed in insulated piping.
4. Thread Size: NPS 1/2, ASME B1.20.1 pipe thread.
5. Minimum Pressure and Temperature Rating: 500 psig at 200 deg F.
6. Core Inserts: EPDM self-sealing rubber.

PART 3 - EXECUTION

3.1 INSTALLATION OF EXPANSION JOINTS, GENERAL

- A. Install expansion joints of sizes matching sizes of piping in which they are installed.

3.2 INSTALLATION OF GROOVED-JOINT EXPANSION JOINTS

- A. Install grooved-joint expansion joints to grooved-end piping.

3.3 INSTALLATION OF ALIGNMENT GUIDES AND ANCHORS

- A. Install alignment guides to guide expansion and to avoid end-loading and torsional stress.
- B. Install two guides on each side of pipe expansion fitting. Install guides nearest to expansion joint not more than four pipe diameters from expansion joint.
- C. Attach guides to pipe, and secure guides to building structure.
- D. Install anchors at locations to prevent stresses from exceeding those permitted by ASME B31.9 and to prevent transfer of loading and stresses to connected equipment.

3.4 INSTALLATION OF SLEEVES - GENERAL

- A. Install sleeves for piping passing through penetrations in floors, partitions, and walls.
- B. Install sleeves for pipes passing through interior partitions.
 - 1. Cut sleeves to length for mounting flush with both surfaces.
 - 2. Install sleeves that are large enough to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation.
 - 3. Seal annular space between sleeve and piping or piping insulation; use joint sealants that joint sealant manufacturer's literature indicates is appropriate for size, depth, and location of joint.
- C. Fire-Resistance-Rated Penetrations, Horizontal Assembly Penetrations, and Smoke Barrier Penetrations: Maintain indicated fire or smoke rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with fire- and smoke-stop materials. Comply with requirements for firestopping and fill materials for the rating of the assembly being penetrated.

3.5 INSTALLATION OF GAUGES

- A. Install direct-mounted pressure gauges in piping tees with pressure gauge located on pipe at most readable position.
- B. Install valve and snubber in piping for each pressure gauge for fluids.

3.6 CONNECTIONS

- A. Install meters and gauges adjacent to machines and equipment to allow space for service and maintenance of meters, gauges, machines, and equipment.

3.7 ADJUSTING

- A. After installation, calibrate meters according to manufacturer's written instructions.
- B. Adjust faces of meters and gauges to proper angle for best visibility.

3.8 SLEEVES APPLICATION

- A. Use sleeves and sleeve seals for the following piping-penetration applications:
 - 1. Interior Wall and Partitions:
 - a. Sleeves without waterstops.

END OF SECTION

22 05 23 – GENERAL DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Ball valves.
2. Globe valves.
3. Check valves.

1.2 DEFINITIONS

- A. CWP: Cold working pressure.
- B. EPDM: Ethylene propylene-diene terpolymer.
- C. NBR: Nitrile butadiene rubber (also known as Buna-N).
- D. PFAS: Per- and polyfluoroalkyl substances.

1.3 ACTION SUBMITTALS

A. Product Data:

1. For each type of product.
 - a. Include material descriptions and dimensions of individual components.
 - b. Include operating characteristics and furnished accessories.
 - c. All products must be PFAS free.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, grooved ends, press ends, solder ends, and weld ends.
3. Set ball valves open to minimize exposure of functional surfaces.
4. Block check valves in either closed or open position.

B. Use the following precautions during storage:

1. Maintain valve end protection.
2. Store valves indoors and maintain at higher-than-ambient-dew-point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain each type of valve from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Standards:

- 1. Domestic-water piping valves intended to convey or dispense water for human consumption must comply with the U.S. Safe Drinking Water Act (SDWA), requirements of authorities having jurisdiction, and NSF 61/NSF 372; or to be certified in compliance with NSF 61/NSF 372 by an American National Standards Institute (ANSI)-accredited third-party certification body, that the weighted average lead content at wetted surfaces is less than or equal to 0.25 percent. All wetted surfaces are to be certified as PFAS-free.

- B. ASME Compliance:

- 1. ASME B1.20.1 for threads for threaded-end valves.
- 2. ASME B16.5 for flanges on steel valves.
- 3. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
- 4. ASME B16.34 for flanged- and threaded-end connections.
- 5. ASME B16.51 for press joint connections.
- 6. ASME B31.9 for building services piping valves.

- C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.

- D. Valve Sizes: Same as upstream piping unless otherwise indicated.

- E. Valve Bypass and Drain Connections: MSS SP-45.

- F. Valve Actuator Type:

- 1. Gear Actuator: For quarter-turn ball valves NPS 4 and larger.
- 2. Hand Lever: For quarter-turn ball valves smaller than NPS 4.

- G. Valves in Insulated Piping:

- 1. Provide 2-inch extended neck stems.
- 2. Provide extended operating handles with nonthermal-conductive covering material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation.
- 3. Provide memory stops that are fully adjustable after insulation is applied.

2.3 BALL VALVES

- A. Ball Valves - CPVC, Union Type

1. Standards: Comply with MSS SP-122 and ASTM F1970.
2. Pressure Rating: 150 psig at 73 deg F.
3. Body Material: ASTM D1784 CPVC compound.
4. Body Design: Union type.
5. End Connections: Detachable, socket. Ball: ASTM D1784 CPVC compound.
6. Port: Full.
7. Seats: CPVC.
8. Stem: ASTM D1784 CPVC compound.
9. Stem Seals: EPDM-rubber O-rings.
10. Handle: Tee shaped.
11. All internal wetted components shall be certified as PFAS-free.

B. Ball Valves, Stainless Steel

1. Standard: MSS SP-110.
2. Minimum CWP Rating: 1000 psig.
3. Body Material: Stainless steel.
4. Body Design: Two-piece body.
5. End Connections: Threaded.
6. Seats: Certified non-PFAS.
7. Stem: Stainless steel.
8. Ball: Stainless steel, vented.
9. Port: Full.
10. Handle: Lever type.

2.4 CHECK VALVES

A. Check Valves - CPVC, Union-Type Ball Check:

1. Standard: Comply with ASTM F1970.
2. Pressure Rating and Temperature: 150 psig at 73 deg F.
3. Body Material: ASTM D1784 CPVC compound.
4. Body Design: Union-type ball check.
5. End Connections for Valves NPS 2 and Smaller: Detachable, socket or threaded.
6. End Connections for Valves NPS 2-1/2 to NPS 4: Detachable, socket, socket or threaded, threaded, flanged.
7. Ball: ASTM D1784 CPVC compound.
8. Seals: EPDM-rubber O-rings.

B. Check Valves, 304/316 stainless steel, Swing Type, Threaded ends, with SS Disc, Class 150:

1. Standard: MSS SP-80, Type 4.
2. CWP Rating: 300 psig.
3. Body Design: Horizontal flow.
4. Body Material: Stainless Steel, type 304 or 316.
5. Ends: Threaded.
6. Disc: SS.

2.5 Globe Valves

A. Globe Valves - CPVC, Union Type

1. Standards: Comply with MSS SP-122 and ASTM F1970.
2. Pressure Rating: 150 psig at 73 deg F.
3. Body Material: ASTM D1784 CPVC compound.
4. Body Design: Angle type or Y-pattern straight flow.
5. End Connections: Threaded.
6. Seats: CPVC.
7. Stem: ASTM D1784 CPVC compound.
8. Stem Seals: EPDM-rubber O-rings.
9. Handle: Round or Oval shaped.
10. All internal wetted components shall be certified as PFAS-free.

B. Globe Valves, Stainless Steel

1. Standard: MSS SP-80.
2. Minimum CWP Rating: 200 psig.
3. Body Material: Stainless steel.
4. Body Design: Angled nor Y-pattern straight flow.
5. End Connections: Threaded.
6. Seats: Stainless Steel Ground.
7. Stem: Stainless steel.
8. Handle: Handle type.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
- B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.
- C. Examine threads on valve and mating pipe for form and cleanliness.
- D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.
- E. Examine press fittings to verify they have been properly pressed.
- F. Do not attempt to repair defective valves; replace with new valves. Remove defective valves from site.

3.2 INSTALLATION OF VALVES

- A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
- B. Provide support of piping adjacent to valves such that no force is imposed upon valves.
- C. Locate valves for easy access and where not blocked by equipment, other piping, or building components.
- D. For valves in horizontal piping, install valves with stem at or above center of pipe.
- E. Install valves in position that does not project into aisles or block access to other equipment.
- F. Install valves in position to allow full stem and actuator or manual operator movement.
- G. Verify that joints of each valve have been properly installed and sealed to assure there is no leakage or damage.
- H. Install check valves for proper direction of flow.
- I. Valve Tags: Comply with requirements in Section 220553 "Identification for Plumbing Piping and Equipment" for valve tags and schedules.
- J. Adhere to manufacturer's written installation instructions. When soldering or brazing valves, do not heat valves above maximum permitted temperature. Do not use solder with melting point temperature above valve manufacturer's written recommended maximum.

3.3 ADJUSTING

- A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.4 GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

- A. If valves with specified CWP ratings are unavailable, the same types of valves with higher CWP ratings may be substituted.
- B. Select valves with the following end connections:
 - 1. NPS 2 and Smaller: Threaded ends except where press-end option is indicated.
 - 2. NPS 2-1/2 to NPS 4: Flanged ends except where threaded valve-end option is indicated.

3.5 DOMESTIC HOT- AND COLD-WATER BALL VALVE SCHEDULE

- A. Pipe NPS 2 and Smaller:
 - 1. Ball valves, threaded, two pieces with full port and stainless-steel trim; threaded or ends.
 - 2. Ball valves, press ends - SS, two pieces with full port and stainless-steel trim.

B. Pipe NPS 2-1/2 and Larger:

1. Ball valves flanged or threaded ends - steel, with full port, Class 150 flanged or threaded ends.

C. For CPVC Pipe:

1. CPVC Union-Type Ball Check Valve: NPS 4 and smaller; 150 psig at 73 deg F.
 - a. End Connections for Valves NPS 2 and Smaller: Socket.
 - b. End Connections for Valves NPS 2-1/2 to NPS 4: Socket or Flanged.

3.6 DOMESTIC HOT- AND COLD-WATER CHECK VALVE SCHEDULE

A. Pipe NPS 2 and Smaller:

1. Check valves, SS, swing type, threaded ends - SS disc, Class 200; threaded or press-fit ends.

B. For CPVC Pipe:

1. NPS 2 and Smaller: Union ball check valve.
2. NPS 4 and Smaller: Union or Non-union ball check valve.

END OF SECTION

22 05 29 – HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe hangers and supports - metal.
2. Pipe hangers - metal, trapeze type.
3. Strut support systems - metal, rod type.
4. Fastener systems.
5. Pipe-positioning systems.

B. Related Requirements:

1. Section 22 05 00 - Common Work Results for Plumbing for pipe guides and anchors.

1.2 ACTION SUBMITTALS

A. Product Data:

1. For each type of product.

B. Shop Drawings: Signed and sealed by a qualified professional engineer engaged by the Contractor. Show fabrication and installation details and include calculations for the following:

1. Trapeze pipe hangers.
2. Metal strut support systems.
3. Pipe stands.

C. Delegated Design Submittals: For trapeze hangers indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer engaged by the Contractor and responsible for their preparation.

1. Detail fabrication/assembly and design calculations for trapeze hangers.
2. Detail fabrication/assembly and design calculations for each type of strut support system, by the manufacturer's technical representative.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

1.4 QUALITY ASSURANCE

A. Structural-Steel Welding Qualifications: Qualify procedures and personnel in accordance with AWS D1.1/D1.1M.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Contractor shall engage a qualified professional engineer to design trapeze pipe hangers.
- B. Structural Performance: Hangers and supports for plumbing piping and equipment are to withstand the effects of gravity loads and stresses within limits and under conditions indicated in accordance with ASCE/SEI 7.
 - 1. Design supports for multiple pipes, including pipe stands, capable of supporting combined weight of supported systems, system contents, and test water.

2.2 PIPE HANGERS AND SUPPORTS - METAL

- A. Pipe Hangers and Supports - Carbon Steel:
 - 1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
 - 2. Galvanized Metallic Coatings: Pregalvanized, hot-dip galvanized, or electro-galvanized.
 - 3. Nonmetallic Coatings: Plastic coated or epoxy powder coated.
 - 4. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping.
 - 5. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.

2.3 PIPE HANGERS - METAL, TRAPEZE TYPE

- A. Description: MSS SP-58, Type 59, shop- or field-fabricated pipe-support assembly, made from structural-carbon-steel shapes, with MSS SP-58 carbon-steel hanger rods, nuts, saddles, and U-bolts.

2.4 STRUT SUPPORT SYSTEMS - METAL, ROD TYPE

- A. Description: Factory-fabricated pipe-support assembly, made of steel channels, vertical metal support rods, accessories, fittings, and other components for supporting multiple parallel pipes.
- B. Standard: Comply with MFMA-4, factory-fabricated components for field assembly.
- C. Struts: Continuous slotted carbon-steel channel with intumed lips or angle.
- D. Strut Width: Selected for applicable load criteria.
- E. Strut Nuts: Formed or stamped nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.
- F. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.
- G. Metallic Coating: Hot-dip galvanized or Gold (yellow zinc dichromate) galvanized.

2.5 THERMAL HANGER-SHIELD INSERTS

- A. Insulation-Insert Material for Cold Piping: ASTM C552, Type II cellular glass with 100 psig or ASTM C591, Type VI, Grade 1 polyisocyanurate with 125 psig minimum compressive strength and vapor barrier.
- B. Insulation-Insert Material for Hot Piping: ASTM C552, Type II cellular glass with 100 psig or ASTM C591, Type VI, Grade 1 polyisocyanurate with 125 psig minimum compressive strength.
- C. For Trapeze or Clamped Systems: Insert and shield are to cover entire circumference of pipe.
- D. For Clevis or Band Hangers: Insert and shield are to cover bottom 180 degrees of pipe.
- E. Insert Length: Extend 2 inches beyond sheet metal shield for piping operating below ambient air temperature.

2.6 FASTENER SYSTEMS

- A. Fastener System - Powder-Actuated Fasteners: Shall NOT be used
- B. Fastener System - Mechanical-Expansion Anchors: Insert-wedge-type anchors, for use in hardened portland cement concrete, with pull-out, tension, and shear capacities required for supported loads and building materials where used.
 - 1. Indoor Applications: Stainless steel.
 - 2. Outdoor Applications: Stainless steel.

2.7 PIPE-POSITIONING SYSTEMS

- A. Description: IAPMO PS 42 positioning system composed of metal brackets, clips, and straps for positioning piping in pipe spaces; for plumbing fixtures in commercial applications.

2.8 MATERIALS

- A. Carbon Steel: ASTM A1011/A1011M.
- B. Structural Steel: ASTM A36/A36M carbon-steel plates, shapes, and bars; black and galvanized.
- C. Stainless Steel: ASTM A240/A240M.
- D. Grout: ASTM C1107/C1107M, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.
 - 1. Properties: Nonstaining, noncorrosive, and nongaseous.
 - 2. Design Mix: 5000 psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with project requirements for firestopping materials and installation, for penetrations through fire-rated walls, ceilings, and assemblies.
- B. **Strength of Support Assemblies:** Where not indicated, select sizes of components, so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination is to include weight of supported components plus 200 lb.

3.2 INSTALLATION OF HANGERS AND SUPPORTS

- A. Install hangers and supports to allow controlled thermal movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- B. Install lateral bracing with pipe hangers and supports to prevent swaying.
- C. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 and larger and at changes in direction of piping. Coordinate location of concrete inserts before concrete is placed.
- D. **Load Distribution:** Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- E. **Pipe Slopes:** Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.
- F. **Insulated Piping:**
 - 1. Attach clamps and spacers to piping.
 - a. Piping Operating above Ambient Air Temperature: Clamp may project through insulation.
 - b. Piping Operating below Ambient Air Temperature: Use thermal-hanger shield insert with clamp sized to match OD of insert.
 - c. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping.
 - 2. Install MSS SP-58, Type 39, protection saddles if insulation without vapor barrier is indicated. Fill interior voids with insulation that matches adjoining insulation.
 - 3. **Shield Dimensions for Pipe:** Not less than the following:
 - a. NPS 1/4 to NPS 4: 12 inches long and 0.048 inch thick.
- G. **Metal Pipe-Hanger Installation:** Comply with MSS SP-58. Install hangers, supports, clamps, and attachments as required to properly support piping from building structure.

- H. Metal Trapeze Pipe-Hanger Installation: Comply with MSS SP-58. Arrange for grouping of parallel runs of horizontal piping, and support together on field-fabricated trapeze pipe hangers.
 - 1. Pipes of Various Sizes: Support together and space trapezes for smallest pipe size or install intermediate supports for smaller-diameter pipes as specified for individual pipe hangers.
 - 2. Field fabricate in accordance with ASTM A36/A36M carbon-steel shapes selected for loads being supported. Weld steel in accordance with AWS D1.1/D1.1M.
- I. Strut System Installation: Metal; arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.
- J. Thermal Hanger-Shield Installation: Install in pipe hanger or shield for insulated piping.
- K. Fastener System Installation:
 - 1. Do NOT install powder-actuated fasteners
 - 2. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Install fasteners in accordance with manufacturer's written instructions.
 - 3. Install lag screw wood fasteners in accordance with manufacturer's written instructions.
 - 4. Install fasteners in accordance with manufacturer's written instructions.
- L. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

3.3 METAL FABRICATIONS

- A. Cut, drill, and fit miscellaneous metal fabrications for trapeze pipe hangers.
- B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded.
- C. Field Welding: Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds; and methods used in correcting welding work; and with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. Finish welds at exposed connections, so no roughness shows after finishing and so contours of welded surfaces match adjacent contours.

3.4 ADJUSTING

- A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.5 PAINTING

A. Touchup:

1. Clean field welds and abraded, shop-painted areas. Paint exposed areas immediately after erecting hangers and supports. Use same materials as those used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - a. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0 mils.
2. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas, and apply galvanizing-repair paint to comply with ASTM A780/A780M.

3.6 HANGER AND SUPPORT SCHEDULE

- A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.
- B. Comply with MSS SP-58 for pipe-hanger selections and applications that are not specified in piping system Sections.
- C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finishes.
- D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.
- E. Use carbon-steel pipe hangers and supports, metal trapeze pipe hangers and metal framing systems and attachments for general service applications.
- F. Use padded hangers for piping that is subject to scratching.
- G. Use thermal hanger-shield inserts for insulated piping and tubing.
- H. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated, stationary pipes NPS 1/2 to NPS 4.
 2. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes NPS 3/4 to NPS 4, requiring clamp flexibility and up to 4 inches of insulation.
 3. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes NPS 1/2 to NPS 4 if little or no insulation is required.
 4. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
 5. Split Pipe Ring with or without Turnbuckle Hangers (MSS Type 11): For suspension of noninsulated, stationary pipes NPS 3/8 to NPS 4.
 6. Extension Hinged or Two-Bolt Split Pipe Clamps (MSS Type 12): For suspension of noninsulated, stationary pipes NPS 3/8 to NPS 3.

7. U-Bolts (MSS Type 24): For support of heavy pipes NPS 1/2 to NPS 4.
 8. Clips (MSS Type 26): For support of insulated pipes not subject to expansion or contraction.
 9. Pipe Saddle Supports (MSS Type 36): For support of pipes NPS 4 to NPS 4, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate.
 10. Pipe Stanchion Saddles (MSS Type 37): For support of pipes NPS 4 to NPS 4, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate, and with U-bolt to retain pipe.
 11. Adjustable Pipe Saddle Supports (MSS Type 38): For stanchion-type support for pipes NPS 2-1/2 to NPS 4 if vertical adjustment is required, with steel-pipe base stanchion support and cast-iron floor flange.
- I. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 4.
 2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 4 if longer ends are required for riser clamps.
- J. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel Turnbuckles (MSS Type 13): For adjustment of up to 6 inches for heavy loads.
 2. Steel Clevises (MSS Type 14): For 120 to 450 deg F piping installations.
 3. Malleable-Iron Sockets (MSS Type 16): For attaching hanger rods to various types of building attachments.
 4. Steel Weldless Eye Nuts (MSS Type 17): For 120 to 450 deg F piping installations.
- K. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel or Malleable-Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
 2. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joist construction, to attach to top flange of structural shape.
 3. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
 4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
 5. Welded Beam Attachments (MSS Type 22): For attaching to bottom of beams if loads are considerable and rod sizes are large.
 6. C-Clamps (MSS Type 23): For structural shapes.
 7. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge.
 8. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams.
 9. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.
 10. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
 11. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.

12. Welded-Steel Brackets: For support of pipes from below or for suspending from above by using clip and rod. Use one of the following for indicated loads:
 - a. Light (MSS Type 31): 750 lb.
 - b. Medium (MSS Type 32): 1500 lb.
 - c. Heavy (MSS Type 33): 3000 lb.
 13. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.
 14. Plate Lugs (MSS Type 57): For attaching to steel beams if flexibility at beam is required.
- L. Saddles and Shields: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel-Pipe-Covering Protection Saddles (MSS Type 39): To fill interior voids with insulation that matches adjoining insulation.
 2. Protection Shields (MSS Type 40): Of length recommended in writing by manufacturer to prevent crushing insulation.
 3. Thermal Hanger-Shield Inserts: For supporting insulated pipe.
- M. Comply with MSS SP-58 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.
- N. Use mechanical-expansion anchors instead of building attachments where required in concrete construction.
- O. Use pipe-positioning systems in pipe spaces behind plumbing fixtures to support supply and waste piping for plumbing fixtures.

END OF SECTION

22 05 53 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Equipment labels.
 - 2. Warning signs and labels.
 - 3. Warning tape.
 - 4. Pipe labels.
 - 5. Valve tags.
 - 6. Warning tags.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Valve Schedules: For each piping system. Include in operation and maintenance manuals developed by the Contractor.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

- A. Metal Labels for Equipment:
 - 1. Material and Thickness: Aluminum, 0.032-inch minimum thickness, with predrilled or stamped holes for attachment hardware.
 - 2. Letter and Background Color: As indicated for specific application under Part 3.
 - 3. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
 - 4. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances of up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
 - 5. Fasteners: Stainless steel rivets or self-tapping screws.
 - 6. Adhesive: Contact-type, PFAS-free, permanent adhesive, compatible with label and with substrate.
- B. Label Content: Include equipment's Drawing designation or unique equipment number.

2.2 WARNING SIGNS AND LABELS

- A. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8 inch thick, with predrilled holes for attachment hardware.
- B. Letter and Background Color: As indicated for specific application under Part 3.

- C. Maximum Temperature: Able to withstand temperatures of up to 160 deg F.
- D. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
- E. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances of up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
- F. Fasteners: Stainless steel rivets or self-tapping screws.
- G. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.
- H. Label Content: Include caution and warning information plus emergency notification instructions.

2.3 WARNING TAPE

- A. Material: Vinyl.
- B. Minimum Thickness: 0.005 inch.
- C. Letter, Pattern, and Background Color: As indicated for specific application under Part 3.
- D. Waterproof Adhesive Backing: Suitable for indoor or outdoor use.
- E. Maximum Temperature: 160 deg F.
- F. Minimum Width: 4 inches.

2.4 PIPE LABELS

- A. General Requirements for Manufactured Pipe Labels: Preprinted, color coded, with lettering indicating service and showing flow direction in accordance with ASME A13.1.
- B. Letter and Background Color: As indicated for specific application under Part 3.
- C. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to cover full circumference of pipe and to attach to pipe without fasteners or adhesive.
- D. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.
- E. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings. Also include:
 - 1. Pipe size.
 - 2. Flow-Direction Arrows: Include flow-direction arrows on distribution piping. Arrows may be either integral with label or applied separately.
 - 3. Lettering Size: Size letters in accordance with ASME A13.1 for piping.

2.5 VALVE TAGS

- A. Description: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch numbers.
 - 1. Tag Material: Aluminum, 0.031-inch minimum thickness, with predrilled or stamped holes for attachment hardware.
 - 2. Fasteners: Brass wire or S-hook.
- B. Letter and Background Color: As indicated for specific application under Part 3.
- C. Valve Schedules: For each piping system, on 8-1/2-by-11-inch bond paper. Tabulate valve number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal operating position (open, closed, or modulating), and variations for identification. Mark valves for emergency shutoff and similar special uses.
 - 1. Include valve-tag schedule in operation and maintenance data provided by the Contractor.

2.6 WARNING TAGS

- A. Description: Preprinted or partially preprinted accident-prevention tags of plasticized card stock with matte finish suitable for writing.
 - 1. Size: Approximately 4 by 7 inches.
 - 2. Fasteners: Brass grommet and wire.
 - 3. Nomenclature: Large-size primary caption, such as "DANGER," "CAUTION," or "DO NOT OPERATE."
 - 4. Letter and Background Color: As indicated for specific application under Part 3.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping and equipment surfaces of incompatible primers, paints, and encapsulants, as well as dirt, oil, grease, release agents, and other substances that could impair bond of identification devices.

3.2 INSTALLATION, GENERAL REQUIREMENTS

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.
- D. Locate identifying devices so that they are readily visible from the point of normal approach.

3.3 INSTALLATION OF EQUIPMENT LABELS, WARNING SIGNS, AND LABELS

- A. Permanently fasten labels on each item of plumbing equipment.
- B. Sign and Label Colors.
 - 1. White letters on an ANSI Z535.1 safety-green background.
- C. Locate equipment labels where accessible and visible.

3.4 INSTALLATION OF WARNING TAPE

- A. Warning Tape Color and Pattern: Yellow background with black diagonal stripes.
- B. Install warning tape on pipes and ducts, with cross-designated walkways providing less than 6 ft. of clearance.
- C. Locate tape so as to be readily visible from the point of normal approach.

3.5 INSTALLATION OF PIPE LABELS

- A. Install pipe labels showing service and flow direction with permanent adhesive on pipes.
- B. Pipe-Label Locations: Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:
 - 1. Within 3 ft. of each valve and control device.
 - 2. At access doors, manholes, and similar access points that permit view of concealed piping.
 - 3. Within 3 ft. of equipment items and other points of origination and termination.
 - 4. Spaced at maximum intervals of 25 ft. along each run. Reduce intervals to 10 ft. in areas of congested piping and equipment.
- C. Do not apply plastic pipe labels or plastic tapes directly to bare pipes conveying fluids at temperatures of 125 deg F or higher.
- D. Flow-Direction Flow Arrows: Use arrows, in compliance with ASME A13.1, to indicate direction of flow in pipes, including pipes where flow is allowed in both directions.
- E. Pipe-Label Color Schedule:
 - 1. Domestic Cold-Water Piping: White letters on an ANSI Z535.1 safety-green background.
 - 2. Domestic Hot-Water Piping: White letters on an ANSI Z535.1 safety-green background.
 - 3. Domestic Hot-Water Return Piping: White letters on an ANSI Z535.1 safety-green background.

3.6 INSTALLATION OF VALVE TAGS

- A. Install tags on valves and control devices in piping systems, except check valves, valves within factory-fabricated equipment units, shutoff valves, faucets, convenience and lawn-watering hose connections, and similar roughing-in connections of end-use fixtures and units. List tagged valves in a valve schedule in the operating and maintenance manual.
- B. Valve-Tag Application Schedule: Tag valves according to size, shape, and color scheme and with captions similar to those indicated in "Valve-Tag Size and Shape" Subparagraph below:
 - 1. Valve-Tag Size and Shape:
 - a. Domestic Cold Water: 1-1/2 inches, round.
 - b. Domestic Hot Water: 1-1/2 inches, round.
 - c. Domestic Hot-Water Return: 1-1/2 inches, round.
 - d. Valve-Tag Colors:
 - e. For each piping system, use the same lettering and background coloring system on valve tags as used in the piping system labels and background.

3.7 INSTALLATION OF WARNING TAGS

- A. Warning Tag Color: Black letters on an ANSI Z535.1 safety-yellow background.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. CPVC piping and fittings - domestic water.
2. PEX piping and fittings - domestic water.
3. Piping joining materials - domestic water.
4. Stainless steel piping and fittings - domestic water.
5. Transition fittings - domestic water.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Piping layout drawn to scale, showing the items described in this Section.
- B. System purging and disinfecting activities report.
- C. Field quality-control reports.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Installers of pressure-sealed joints are to be certified by pressure-seal joint manufacturer as having been trained and qualified to join piping with pressure-seal pipe couplings and fittings.

1.5 FIELD CONDITIONS

- A. Interruption of Existing Water Service: Coordinate interruptions in water service to facilities occupied by Owner or others.
 1. Notify Engineer and Owner no fewer than four days in advance of proposed interruption of water service.
 2. Do not interrupt water service without Owner's advance written permission.

POINT-OF-USE TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Domestic water piping, tubing, fittings, joints, and appurtenances intended to convey or dispense water for human consumption are to comply with the U.S. Safe Drinking Water Act, with requirements of authorities having jurisdiction, and with NSF 61 and NSF 372, or be certified in compliance with NSF 61 and NSF 372 by an ANSI-accredited third-party certification body, in that the weighted average lead content at wetted surfaces is less than or equal to 0.25 percent.

2.2 PIPING MATERIALS

- A. Potable-water piping and components are to comply with NSF 14, NSF 61, and NSF 372. Include marking "NSF-pw" on piping.

2.3 CPVC PIPING - DOMESTIC WATER (PREFERRED)

- A. Source Limitations: Obtain CPVC piping from single manufacturer.
- B. CPVC Pipe: ASTM F441/F441M, with wall thickness as indicated in "Piping Applications" Article.
 - 1. CPVC Socket Fittings: ASTM F439 for Schedule 80.
 - 2. CPVC Threaded Fittings: ASTM F437, Schedule 80.
- C. CPVC Piping System: ASTM D2846/D2846M, SDR 11, pipe and socket fittings.

2.4 STAINLESS STEEL PIPING AND FITTINGS - DOMESTIC WATER

- A. Potable-water piping and components are to comply with NSF 61 and NSF 372.
- B. Stainless Steel Pipe: ASTM A312/A312M, seamless, stainless steel of types and schedules as indicated in "Piping Applications" Article.
- C. Stainless Steel Pipe Fittings: ASTM A815/A815M.

2.5 PEX TUBE AND FITTINGS - DOMESTIC WATER (ALTERNATIVE)

- A. PEX Tube - Domestic Water:
 - 1. Source Limitations: Obtain PEX tube from single manufacturer.
 - 2. Tube Material: PEX plastic in accordance with ASTM F876 and ASTM F877.
- B. PEX Tube Fittings - Domestic Water:
 - 1. Source Limitations: Obtain PEX tube fittings from single manufacturer.

POINT-OF-USE TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

2. Fittings: ASTM F1960, cold expansion fittings and reinforcing rings.

C. Manifold: Multiple-outlet, plastic or corrosion-resistant-metal assembly complying with ASTM F876; with stainless steel valve for each outlet.

2.6 PIPING JOINING MATERIALS - DOMESTIC WATER

A. Pipe-Flange Gasket Materials:

1. AWWA C110/A21.10, rubber, flat face, 1/8 inch thick or ASME B16.21, nonmetallic and asbestos free unless otherwise indicated.
2. Full-face or ring type unless otherwise indicated.
3. All gasket materials shall be certified as PFAS-free.

B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, 304L stainless steel unless otherwise indicated.

C. Solvent Cements for Joining CPVC Piping and Tubing: ASTM F493.

1. Plastic, Pipe-Flange Gaskets, Bolts, and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated. All gasket materials shall be certified as PFAS-free.

2.7 TRANSITION FITTINGS - DOMESTIC WATER

A. General Requirements:

1. Same size as pipes to be joined.
2. Pressure rating at least equal to pipes to be joined.
3. End connections compatible with pipes to be joined.
4. All materials shall be certified as PFAS-free.

B. Fitting-Type Transition Couplings: Manufactured piping coupling or specified piping system fitting.

C. Sleeve-Type Transition Couplings - Domestic Water: AWWA C219.

1. Source Limitations: Obtain sleeve-type transition couplings from single manufacturer.

D. Plastic-to-Metal Transition Fittings - Domestic Water:

1. Source Limitations: Obtain plastic-to-metal transition fittings from single source. All materials shall be certified as PFAS-free
2. Description:
 - a. CPVC one-piece fitting with manufacturer's Schedule 80 equivalent dimensions.

E. Plastic-to-Metal Transition Unions - Domestic Water:

1. Source Limitations: Obtain plastic-to-metal transition unions from single manufacturer.

POINT-OF-USE TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

2. Description:
 - a. CPVC four-part union.
 - b. Stainless steel threaded end.
 - c. Solvent-cement-joint or threaded plastic end.
 - d. Rubber O-ring.
 - e. Union nut.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS

- A. Transition and special fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.
- B. Flanges and unions may be used for aboveground piping joints unless otherwise indicated.
- C. Aboveground domestic water piping, NPS 1 and smaller may be the following:
 1. PEX tube, NPS 1 and smaller.
 - a. Fittings for PEX tube:
 - 1) ASTM F1960, cold expansion fittings and reinforcing rings.
- D. Aboveground domestic water piping, NPS 2 and smaller is to be the following:
 1. CPVC, Schedule 80; socket fittings; and solvent-cemented joints.
 2. CPVC, Schedule 80 pipe; CPVC, Schedule 80 threaded fittings; and threaded joints.
 3. 304L/316L Stainless steel, Schedule 40 pipe; 304L/316L SS threaded fittings.
- E. Aboveground domestic water piping, NPS 2-1/2 to NPS 4 is to be the following:
 1. CPVC, Schedule 80; socket fittings; and solvent-cemented joints.

3.2 INSTALLATION OF PIPING

- A. Drawings indicate general location and arrangement of domestic water piping. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are pre-approved by the Engineer and the Owner.
- B. Install valves in accordance with Section 220523 "General-Duty Valves for Plumbing Piping."
- C. Install domestic water piping level without pitch and plumb to the greatest extent possible.
- D. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas.

POINT-OF-USE TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

- E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space.
- G. Install piping to permit valve servicing.
- H. Install nipples, unions, special fittings, and valves with pressure ratings the same as or higher than the system pressure rating used in applications below unless otherwise indicated.
- I. Install piping free of sags and bends.
- J. Install fittings for changes in direction and branch connections.
- K. Install PEX tube with loop at each change of direction of more than 90 degrees.
- L. Install unions in stainless steel piping at final connection to each piece of equipment, machine, and specialty.
- M. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 220500 "Common Work Results for Plumbing."
- N. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 220500 "Common Work Results for Plumbing."
- O. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 220500 "Common Work Results for Plumbing."

3.3 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- C. Threaded Joints: Thread pipe with tapered pipe threads in accordance with ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads. Materials such as PTFE and RTFE which may leach BPA and related compounds are not allowable.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
- D. Pressure-Sealed Joints for stainless steel piping: Join stainless steel pipe and stainless-steel pressure-seal fittings with tools and procedure recommended by pressure-seal-fitting manufacturer. Leave insertion marks on pipe after assembly.

POINT-OF-USE TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

1. Flanged Joints: Select appropriate asbestos-free, nonmetallic gasket material in size, type, and thickness suitable for domestic water service. Join flanges with gasket and bolts in accordance with ASME B31.9. Materials such as PTFE and RTFE which may leach BPA and related compounds are not allowable.
 - E. Joint Construction for Solvent-Cemented Plastic Piping: Clean and dry joining surfaces. Join pipe and fittings in accordance with the following:
 1. Comply with ASTM F402 for safe-handling practice of cleaners, primers, and solvent cements. Apply primer.
 2. CPVC Piping: Join in accordance with ASTM D2846/D2846M.
 - F. Joints for PEX Tubing, ASTM: Join in accordance with ASTM F1960 for cold expansion fittings and reinforcing rings.
- 3.4 INSTALLATION OF TRANSITION FITTINGS
- A. Install transition couplings at joints of dissimilar piping.
 - B. Transition Fittings in Underground Domestic Water Piping:
 1. Fittings for NPS 1-1/2 and Smaller: Fitting-type coupling.
 2. Fittings for NPS 2 and Larger: Sleeve-type coupling.
 - C. Transition Fittings in Aboveground Domestic Water Piping NPS 2 and Smaller: Plastic-to-metal transition fittings or unions.
- 3.5 INSTALLATION OF HANGERS AND SUPPORTS
- A. Comply with requirements for hangers, supports, and anchor devices in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
 - B. Install hangers for stainless steel pipe with maximum horizontal spacing and minimum rod diameters, to comply with MSS SP-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
 - C. Install vinyl-coated hangers for CPVC pipe, with maximum horizontal spacing and minimum rod diameters, to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
 - D. Install vinyl-coated hangers for PEX tube, with maximum horizontal spacing and minimum rod diameters, to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
 - E. Support horizontal piping within 12 inches of each fitting.
 - F. Support vertical runs of pipe to comply with MSS SP-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

POINT-OF-USE TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

- G. Support vertical runs of CPVC pipe to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
- H. Support vertical runs of PEX tube to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

3.6 PIPING CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. When installing piping adjacent to equipment and machines, allow space for service and maintenance.
- C. Connect domestic water piping source piping. Use transition fitting to join dissimilar piping materials.
- D. Connect domestic water piping to source piping with shutoff valve; extend and connect to the following:
 - 1. Equipment: Cold- and hot-water-supply piping as indicated, but not smaller than equipment connections. Provide shutoff valve and union for each connection. Use flanges instead of unions for NPS 2-1/2 and larger.

3.7 IDENTIFICATION

- A. Identify system components. Comply with requirements for identification materials and installation in Section 220553 "Identification for Plumbing Piping and Equipment."

3.8 CLEANING

- A. Clean and disinfect potable domestic water piping as follows:
- B. Prepare and submit reports of purging and disinfecting activities. Include copies of water-sample approvals from authorities having jurisdiction.
- C. Clean interior of domestic water piping system. Remove dirt and debris as work progresses.
- D. Use only BPA-free materials in cleaning piping.
- E. Keep piping ends covered until connections between pipes are made.

3.9 STORAGE

- A. All piping shall be stored in climate-stable and secure locations, with open ends sealed until installation.

POINT-OF-USE TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

3.10 ADJUSTING

A. Perform the following adjustments before operation:

1. Open shutoff valves to fully open position.
2. Remove plugs used during testing of piping and for temporary sealing of piping during installation.
3. Remove and clean strainer screens. Close drain valves and replace drain plugs.
4. Remove filter cartridges from housings and verify that cartridges are as specified for application were used and are clean and ready for use.
5. Check plumbing specialties and verify proper settings, adjustments, and operation.

3.11 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Piping Inspections:

- a. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction.
- b. During installation, notify authorities having jurisdiction at least one day before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction:
 - 1) Roughing-in Inspection: Arrange for inspection of piping before concealing or closing in after installation and before setting fixtures.
 - 2) Final Inspection: Arrange for authorities having jurisdiction to observe tests specified in "Piping Tests" Subparagraph below and to ensure compliance with requirements.
- c. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection.
- d. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

2. Hydrostatic Piping Tests:

- a. Fill domestic water piping with water free of PFAS compounds for use in pipe testing. Check components to determine that they are not air bound, and that piping is completely filled.
- b. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit a separate report for each test, complete with diagram of portion of piping tested.
- c. Leave new, altered, extended, or replaced domestic water piping uncovered and unconcealed until it has been tested and approved. Expose work that was covered or concealed before it was tested.
- d. Cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow it to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.

POINT-OF-USE TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

- e. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.
 - f. Prepare reports for tests and for corrective action required.
3. Pneumatic Piping Tests - ALTERNATE:
- a. Contractor shall submit as an alternative the procedure for pneumatic testing on any or all piping systems for approval by the Engineer.
 - b. Contractor shall carry alternate pricing for both testing procedures, with the hydrostatic testing being part of the Base Bid.
- B. Domestic water piping will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 221116

22 11 16 – DOMESTIC WATER PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. CPVC piping and fittings - domestic water.
2. Piping joining materials - domestic water.
3. Stainless steel piping and fittings - domestic water.
4. Transition fittings - domestic water.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings:** Piping layout drawn to scale, showing the items described in this Section.
- B. System purging and disinfecting activities report.**
- C. Field quality-control reports.**

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:** Installers of pressure-sealed joints are to be certified by pressure-seal joint manufacturer as having been trained and qualified to join piping with pressure-seal pipe couplings and fittings.

1.5 FIELD CONDITIONS

- A. Interruption of Existing Water Service:** Coordinate interruptions in water service to facilities occupied by Owner or others.
1. Notify Engineer and Owner no fewer than four days in advance of proposed interruption of water service.
 2. Do not interrupt water service without Owner's advance written permission.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Domestic water piping, tubing, fittings, joints, and appurtenances intended to convey or dispense water for human consumption are to comply with the U.S. Safe Drinking Water Act, with requirements of authorities having jurisdiction, and with NSF 61 and NSF 372, or be certified in compliance with NSF 61 and NSF 372 by an ANSI-accredited third-party certification body, in that the weighted average lead content at wetted surfaces is less than or equal to 0.25 percent.

2.2 PIPING MATERIALS

- A. Potable-water piping and components are to comply with NSF 14, NSF 61, and NSF 372. Include marking "NSF-pw" on piping.

2.3 CPVC PIPING - DOMESTIC WATER

- A. Source Limitations: Obtain CPVC piping from single manufacturer.
- B. CPVC Pipe: ASTM F441/F441M, with wall thickness as indicated in "Piping Applications" Article.
 - 1. CPVC Socket Fittings: ASTM F439 for Schedule 80.
 - 2. CPVC Threaded Fittings: ASTM F437, Schedule 80.
- C. CPVC Piping System: ASTM D2846/D2846M, SDR 11, pipe and socket fittings.

2.4 STAINLESS STEEL PIPING AND FITTINGS - DOMESTIC WATER

- A. Potable-water piping and components are to comply with NSF 61 and NSF 372.
- B. Stainless Steel Pipe: ASTM A312/A312M, seamless, stainless steel of types and schedules as indicated in "Piping Applications" Article.
- C. Stainless Steel Pipe Fittings: ASTM A815/A815M.

2.5 PIPING JOINING MATERIALS - DOMESTIC WATER

- A. Pipe-Flange Gasket Materials:
 - 1. AWWA C110/A21.10, rubber, flat face, 1/8 inch thick or ASME B16.21, nonmetallic and asbestos free unless otherwise indicated.
 - 2. Full-face or ring type unless otherwise indicated.
 - 3. All gasket materials shall be certified as PFAS-free.
- B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

- C. Solvent Cements for Joining CPVC Piping and Tubing: ASTM F493.
 - 1. Plastic, Pipe-Flange Gaskets, Bolts, and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated. All gasket materials shall be certified as PFAS-free.

2.6 TRANSITION FITTINGS - DOMESTIC WATER

- A. General Requirements:
 - 1. Same size as pipes to be joined.
 - 2. Pressure rating at least equal to pipes to be joined.
 - 3. End connections compatible with pipes to be joined.
 - 4. All materials shall be certified as PFAS-free.
- B. Fitting-Type Transition Couplings: Manufactured piping coupling or specified piping system fitting.
- C. Sleeve-Type Transition Couplings - Domestic Water: AWWA C219.
 - 1. Source Limitations: Obtain sleeve-type transition couplings from single manufacturer.
- D. Plastic-to-Metal Transition Fittings - Domestic Water:
 - 1. Source Limitations: Obtain plastic-to-metal transition fittings from single source. All materials shall be certified as PFAS-free
 - 2. Description:
 - a. CPVC one-piece fitting with manufacturer's Schedule 80 equivalent dimensions.
- E. Plastic-to-Metal Transition Unions - Domestic Water:
 - 1. Source Limitations: Obtain plastic-to-metal transition unions from single manufacturer.
 - 2. Description:
 - a. CPVC four-part union.
 - b. Stainless steel threaded end.
 - c. Solvent-cement-joint or threaded plastic end.
 - d. Rubber O-ring.
 - e. Union nut.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS

- A. Transition and special fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.
- B. Flanges and unions may be used for aboveground piping joints unless otherwise indicated.

- C. Aboveground domestic water piping, NPS 2 and smaller is to be the following:
 - 1. CPVC, Schedule 80; socket fittings; and solvent-cemented joints.
 - 2. CPVC, Schedule 80 pipe; CPVC, Schedule 80 threaded fittings; and threaded joints.
 - 3. Stainless steel, Schedule 40 pipe; threaded fittings.
- D. Aboveground domestic water piping, NPS 3 to NPS 4 is to be the following:
 - 1. CPVC, Schedule 80; socket fittings; and solvent-cemented joints.

3.2 INSTALLATION OF PIPING

- A. Drawings indicate general location and arrangement of domestic water piping. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are pre-approved by the Engineer and the Owner.
- B. Install valves in accordance with Section 22 05 23 - General-Duty Valves for Plumbing Piping.
- C. Install domestic water piping level without pitch and plumb to the greatest extent possible.
- D. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas.
- E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space.
- G. Install piping to permit valve servicing.
- H. Install nipples, unions, special fittings, and valves with pressure ratings the same as or higher than the system pressure rating used in applications below unless otherwise indicated.
- I. Install piping free of sags and bends.
- J. Install fittings for changes in direction and branch connections.
- K. Install unions in stainless steel piping at final connection to each piece of equipment, machine, and specialty.
- L. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 22 05 00 - Common Work Results for Plumbing.
- M. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 22 05 00 - Common Work Results for Plumbing.

- N. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 22 05 00 - Common Work Results for Plumbing.

3.3 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- C. Threaded Joints: Thread pipe with tapered pipe threads in accordance with ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads. Materials such as PTFE and RTFE which may leach BPA and related compounds are not allowable.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
- D. Pressure-Sealed Joints for stainless steel piping: Join stainless steel pipe and pressure-seal fittings with tools and procedure recommended by pressure-seal-fitting manufacturer. Leave insertion marks on pipe after assembly.
 - 1. Flanged Joints: Select appropriate asbestos-free, nonmetallic gasket material in size, type, and thickness suitable for domestic water service. Join flanges with gasket and bolts in accordance with ASME B31.9. Materials such as PTFE and RTFE which may leach BPA and related compounds are not allowable.
- E. Joint Construction for Solvent-Cemented Plastic Piping: Clean and dry joining surfaces. Join pipe and fittings in accordance with the following:
 - 1. Comply with ASTM F402 for safe-handling practice of cleaners, primers, and solvent cements. Apply primer.
 - 2. CPVC Piping: Join in accordance with ASTM D2846/D2846M.

3.4 INSTALLATION OF TRANSITION FITTINGS

- A. Install transition couplings at joints of dissimilar piping.
- B. Transition Fittings in Underground Domestic Water Piping:
 - 1. Fittings for NPS 1-1/2 and Smaller: Fitting-type coupling.
 - 2. Fittings for NPS 2 and Larger: Sleeve-type coupling.
- C. Transition Fittings in Aboveground Domestic Water Piping NPS 2 and Smaller: Plastic-to-metal transition fittings or unions.

3.5 INSTALLATION OF HANGERS AND SUPPORTS

- A. Comply with requirements for hangers, supports, and anchor devices in Section 22 05 29 - Hangers and Supports for Plumbing Piping and Equipment.
- B. Install hangers for stainless steel pipe with maximum horizontal spacing and minimum rod diameters, to comply with MSS SP-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
- C. Install vinyl-coated hangers for CPVC pipe, with maximum horizontal spacing and minimum rod diameters, to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
- D. Support horizontal piping within 12 inches of each fitting.
- E. Support vertical runs of pipe to comply with MSS SP-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.
- F. Support vertical runs of CPVC pipe to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

3.6 PIPING CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. When installing piping adjacent to equipment and machines, allow space for service and maintenance.
- C. Connect domestic water piping source piping. Use transition fitting to join dissimilar piping materials.
- D. Connect domestic water piping to source piping with shutoff valve; extend and connect to the following:
 - 1. Equipment: Cold- and hot-water-supply piping as indicated, but not smaller than equipment connections. Provide shutoff valve and union for each connection. Use flanges instead of unions for NPS 2-1/2 and larger.

3.7 IDENTIFICATION

- A. Identify system components. Comply with requirements for identification materials and installation in Section 22 05 53 - Identification for Plumbing Piping and Equipment.

3.8 CLEANING

- A. Clean and disinfect potable domestic water piping as follows:
- B. Prepare and submit reports of purging and disinfecting activities. Include copies of water-sample approvals from authorities having jurisdiction.

- C. Clean interior of domestic water piping system. Remove dirt and debris as work progresses.

3.9 ADJUSTING

- A. Perform the following adjustments before operation:
 1. Open shutoff valves to fully open position.
 2. Remove plugs used during testing of piping and for temporary sealing of piping during installation.
 3. Remove and clean strainer screens. Close drain valves and replace drain plugs.
 4. Remove filter cartridges from housings and verify that cartridges are as specified for application where used and are clean and ready for use.
 5. Check plumbing specialties and verify proper settings, adjustments, and operation.

3.10 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 1. Piping Inspections:
 - a. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction.
 - b. During installation, notify authorities having jurisdiction at least one day before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction:
 - 1) Roughing-in Inspection: Arrange for inspection of piping before concealing or closing in after installation and before setting fixtures.
 - 2) Final Inspection: Arrange for authorities having jurisdiction to observe tests specified in "Piping Tests" Subparagraph below and to ensure compliance with requirements.
 - c. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection.
 - d. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.
 2. Hydrostatic Piping Tests:
 - a. Fill domestic water piping with water free of PFAS compounds for use in pipe testing. Check components to determine that they are not air bound and that piping is completely filled.
 - b. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit a separate report for each test, complete with diagram of portion of piping tested.
 - c. Leave new, altered, extended, or replaced domestic water piping uncovered and unconcealed until it has been tested and approved. Expose work that was covered or concealed before it was tested.

- d. Cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow it to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.
 - e. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.
 - f. Prepare reports for tests and for corrective action required.
3. Pneumatic Piping Tests - ALTERNATE:
- a. Contractor shall submit as an alternative the procedure for pneumatic testing on any or all piping systems for approval by the Engineer.
 - b. Contractor shall carry alternate pricing for both testing procedures, with the hydrostatic testing being part of the Base Bid.
- B. Domestic water piping will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION

22 11 19 – DOMESTIC WATER PIPING SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vacuum breakers.
2. Drain valves.
3. Water-hammer arresters.
4. Flexible connectors.
5. Pneumatic expansion tanks for potable water systems.

B. Related Requirements:

1. Section 22 05 00 - Common Work Results for Plumbing.
2. All piping specialties and components shall be certified as PFAS-free.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For domestic water piping specialties.

1.3 INFORMATIONAL SUBMITTALS

- A. Test and inspection reports.
- B. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For domestic water piping specialties to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PIPING SPECIALTIES

- A. Domestic water piping specialties intended to convey or dispense water for human consumption are to comply with the SDWA, requirements of authorities having jurisdiction, and NSF 61 and NSF 372, or to be certified in compliance with NSF 61 and NSF 372 by an American National Standards Institute (ANSI)-accredited third-party certification body that the weighted average lead content at wetted surfaces is less than or equal to 0.25 percent.

2.2 PERFORMANCE REQUIREMENTS

- A. Minimum Working Pressure for Domestic Water Piping Specialties: 125 psig unless otherwise indicated.

2.3 VACUUM BREAKERS

- A. Pipe-Applied, Atmospheric-Type Vacuum Breakers

1. Standard: ASSE 1001.
2. Size: NPS 1/4 to NPS 1, as required to match connected piping.
3. Body: Stainless Steel.
4. Inlet and Outlet Connections: Threaded.
5. Finish: Factory mill finish.

- B. Pressure Vacuum Breakers

1. Standard: ASSE 1020.
2. Operation: Continuous-pressure applications.
3. Pressure Loss: 5 psig maximum, through middle third of flow range.
4. Size: As required.
5. Accessories:
 - a. Valves: Ball type, on inlet and outlet.

2.4 DRAIN VALVES

- A. Ball-Valve-Type, Hose-End Drain Valves

1. Standard: MSS SP-110 for standard-port, two-piece ball valves.
2. Pressure Rating: 400-psig minimum CWP.
3. Size: NPS 3/4.
4. Body: Stainless Steel.
5. Ball: Stainless Steel.
6. Seats and Seals: Replaceable.
7. Handle: Vinyl-covered steel.
8. Inlet: Threaded joint.
9. Outlet: Threaded, short nipple with garden-hose thread complying with ASME B1.20.7 and cap with brass chain.

2.5 WATER-HAMMER ARRESTERS

- A. Water-Hammer Arresters

1. Standard: ASSE 1010 or PDI-WH 201.
2. Type: Metal bellows, Piston or Diaphragm.
3. Body: Stainless Steel.
4. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F.

2.6 FLEXIBLE CONNECTORS

- A. Stainless Steel-Hose Flexible Connectors: Corrugated-stainless steel tubing with stainless steel wire-braid covering and ends welded to inner tubing.
 - 1. Working-Pressure Rating: Minimum 200 psig.
 - 2. End Connections NPS 2 and Smaller: Threaded stainless steel-pipe nipple.
 - 3. End Connections NPS 2-1/2 and Larger: Flanged stainless-steel nipple.

2.7 DOMESTIC WATER EXPANSION TANKS

- 1. Description: Steel pressure-rated tank constructed with welded joints and factory-installed, butyl-rubber diaphragm. Include air precharge to minimum system-operating pressure at tank.
- 2. Construction:
 - a. Tappings: Factory-fabricated steel, welded to tank before testing and labeling. Include ASME B1.20.1 pipe thread.
 - b. Interior Finish: Comply with NSF 61 and NSF 372 barrier materials for potable-water tank linings, including extending finish into and through tank fittings and outlets. All internal materials which have the potential for coming into contact with potable water are to be certified as PFAS-free.
 - c. Air-Charging Valve: Factory installed.

PART 3 - EXECUTION

3.1 INSTALLATION OF PIPING SPECIALTIES

- A. Water-Hammer Arresters: Install in water piping in accordance with PDI-WH 201.
- B. Charge domestic-water expansion tanks with air to required system pressure.

3.2 PIPING CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. When installing piping specialties adjacent to equipment and machines, allow space for service and maintenance.

3.3 IDENTIFICATION

- A. Plastic Labels for Equipment: Install engraved plastic-laminate equipment nameplate or sign on or near each of the following:
 - 1. Vacuum breakers.
- B. Distinguish among multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations, in addition to

identifying unit. Nameplates and signs are specified in Section 22 05 53 - Identification for Plumbing Piping and Equipment.

3.4 ADJUSTING

- A. Adjust each pressure vacuum breaker in accordance with manufacturer's written instructions, authorities having jurisdiction and the device's reference standard.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Domestic water piping specialties will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION

Attachment C

TOWN OF KILLINGWORTH, CONNECTICUT

Proposal Number: 2025-03

PROPOSAL FORM

POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

PROPOSER'S FULL LEGAL NAME: _____

Pursuant to and in full compliance with the RFP, the undersigned proposer, having visited the site or property if applicable, and having thoroughly examined each and every document comprising the RFP, including any addenda, hereby offers and agrees as follows:

To provide the products and/or services specified in, and upon the terms and conditions of, the RFP for the total sum of _____/100 Dollars

(\$ _____)
(write out in words)

ACKNOWLEDGEMENT

In submitting this Proposal Form, the undersigned proposer acknowledges that the price(s) include all labor, materials, transportation, hauling, overhead, fees and insurances, bonds or letters of credit, profit, security, permits and licenses, and all other costs to cover the completed work called for in the RFP. Except as otherwise expressly stated in the RFP, no additional payment of any kind will be made for work accomplished under the price(s) as proposed.

REQUIRED DISCLOSURES

1. Exceptions to or Modifications or Clarifications of the RFP

_____ This proposal does not take exception to or seek to modify or clarify any requirement of the RFP, including but not only any of the Contract Terms set forth in Section 26 of the Standard Instructions to Proposers.

OR

_____ This proposal takes exception(s) to or seeks to modify or clarify certain of the RFP requirements, including but not only the following Contract Terms set forth in Section 26 of the Standard Instructions to Proposers. **Attached is a sheet fully describing each such exception.**

2. State Debarment List

Is the proposer on the State of Connecticut's Debarment List?

_____ Yes

_____ No

3. Occupational Safety and Health Law Violations

Has the proposer or any firm, corporation, partnership or association in which it has an interest (1) 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-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 (2) received one or more criminal convictions related to the injury or death of any employee in the three-year period preceding the proposal?

_____ Yes

_____ No

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

4. Arbitration/Litigation

Has either the proposer 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 or litigation?

_____ Yes

_____ No

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

5. Criminal Proceedings

Has the proposer 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.

6. Ethics and Offenses in Public Projects or Contracts

Has either the proposer or any of its principals (regardless of place of employment) ever been found to have violated any 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?

_____ Yes
_____ No

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

PROPOSAL (BID) SECURITY

I/we have included herein the required certified check or proposal (bid) bond in the amount of 10% of the proposal amount _____

NOTE: THIS DOCUMENT, IN ORDER TO BE CONSIDERED A VALID PROPOSAL, MUST BE SIGNED BY A PRINCIPAL OFFICER OR OWNER OF THE BUSINESS ENTITY THAT IS SUBMITTING THE PROPOSAL. SUCH SIGNATURE CONSTITUTES THE PROPOSER'S REPRESENTATIONS THAT IT HAS READ, UNDERSTOOD AND FULLY ACCEPTED EACH AND EVERY PROVISION OF EACH DOCUMENT COMPROMISING THE RFP, UNLESS AN EXCEPTION IS DESCRIBED ABOVE.

BY: _____ TITLE: _____
(SIGNATURE)

(PRINT NAME)

DATE: _____

END OF PROPOSAL FORM

Attachment D

TOWN OF KILLINGWORTH, CONNECTICUT

Proposal Number: 2025-03

**INSURANCE REQUIREMENTS FOR
POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL**

The Proposer must provide a Certificate of Insurance upon execution of the contract with the Town of Killingworth with the following limits:

Excess/Umbrella:	\$5,000,000
Workers' Compensation:	statutory limits
Contractor - Comprehensive & General Liability:	\$1,000,000 combined single limit
Contractor - Comprehensive Auto Liability:	\$1,000,000 combined single limit
Employer's liability insurance:	\$100,000 each accident, \$500,000 disease – policy limit \$100,000each employee
Owner - Protective Liability:	\$1,000,000
Owner Property Damage:	\$500,000

Naming the Town of Killingworth as additional insured.

END OF INSURANCE REQUIREMENTS

Attachment E-1

TOWN OF KILLINGWORTH, CONNECTICUT

Proposal Number: 2025-03

**PROPOSER'S LEGAL STATUS DISCLOSURE FOR
POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL**

Please fully complete the applicable section below, attaching a separate sheet if you need additional space.

For purposes of this disclosure, "permanent place of business" means an office continuously maintained, occupied and used by the proposer's regular employees regularly in attendance to carry on the proposer's business in the proposer's own name. An office maintained, occupied and used by a proposer 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 proposer will not be considered a permanent place of business of the proposer.

IF A SOLELY OWNED BUSINESS:

Proposer's Full Legal Name _____

Street Address _____

Mailing Address (if different from Street Address) _____

Owner's Full Legal Name _____

Number of years engaged in business under sole proprietor or trade name _____

Does the proposer have a "permanent place of business" in Connecticut, as defined above?

_____ Yes _____ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

IF A CORPORATION:

Proposer's Full Legal Name _____

Street Address _____

Mailing Address (if different from Street Address) _____

Owner's Full Legal Name _____

Number of years engaged in business _____

Names of Current Officers

_____ President

_____ Secretary

_____ Chief Financial Officer

Does the proposer have a "permanent place of business" in Connecticut, as defined above?

_____ Yes _____ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

IF A LIMITED LIABILITY COMPANY:

Proposer's Full Legal Name _____

Street Address _____

Mailing Address (if different from Street Address) _____

Owner's Full Legal Name _____

Number of years engaged in business _____

Names of Current Manager(s) and Member(s)

_____ Name & Title (if any)

_____ Residential Address (street only)

_____ Name & Title (if any)

_____ Residential Address (street only)

_____ Name & Title (if any)

_____ Residential Address (street only)

_____ Name & Title (if any)

_____ Residential Address (street only)

Does the proposer have a "permanent place of business" in Connecticut, as defined above?

_____ Yes _____ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

IF A PARTNERSHIP:

Proposer's Full Legal Name _____

Street Address _____

Mailing Address _____
(if different from Street Address)

Owner's Full Legal Name _____

Number of years engaged in business _____

Names of Current Partners

_____	_____
Name & Title (if any)	Residential Address (street only)

_____	_____
Name & Title (if any)	Residential Address (street only)

_____	_____
Name & Title (if any)	Residential Address (street only)

_____	_____
Name & Title (if any)	Residential Address (street only)

Does the proposer have a "permanent place of business" in Connecticut, as defined above?

_____ Yes _____ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

Legal Name of Proposer _____

Signature: _____

Proposer's Representative, Duly Authorized

Name of Proposer's Authorized Representative: _____

Title of Proposer's Authorized Representative : _____

Date: _____

END OF LEGAL STATUS DISCLOSURE FORM

Attachment E-2

**TOWN OF KILLINGWORTH, CONNECTICUT
PROPOSAL # 2025-03**

PROPOSER'S CERTIFICATION

**Concerning Equal Employment Opportunities and Affirmative Action Policy for
Point-of-Entry Treatment System for Killingworth Elementary School**

I/we, the proposer, certify that:

- 1) I/we are in compliance with the equal opportunity clause as set forth in Connecticut state law (Executive Order No. Three, <http://www.cslib.org/xeorder3.htm>).
- 2) I/we do not maintain segregated facilities.
- 3) I/we have filed all required employer's information reports.
- 4) I/we have developed and maintain written affirmative action programs.
- 5) I/we list job openings with federal and state employment services.
- 6) I/we attempt to employ and advance in employment qualified handicapped individuals.
- 7) I/we are in compliance with the Americans with Disabilities Act.
- 8) I/we (check one):

_____ have an Affirmative Action Program, or _____ employ 10 people or fewer.

Legal Name of Proposer _____

Signature: _____

Proposer's Representative, Duly Authorized

Name of Proposer's Authorized Representative: _____

Title of Proposer's Authorized Representative: _____

Date: _____

Attachment E-3

TOWN OF KILLINGWORTH, CONNECTICUT

Proposal Number: 2025-03

**PROPOSER'S NON COLLUSION AFFIDAVIT FOR
POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL**

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

- (1) the proposal is genuine; it is not a collusive or sham proposal;
- (2) the proposer developed the proposal independently and submitted it without collusion with, 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 proposer, its employees and agents have not communicated the contents of the proposal to any person not an employee or agent of the proposer and will not communicate the 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 Killingworth is directly or indirectly interested in the proposer's proposal, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

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

Legal Name of Proposer _____

Signature: _____

Proposer's Representative, Duly Authorized

Name of Proposer's Authorized Representative: _____

Title of Proposer's Authorized Representative : _____

Date: _____

Subscribed and sworn to before me this _____ day of _____, 20____.

_____ Notary Public My Commission Expires:

Attachment E-4

TOWN OF KILLINGWORTH, CONNECTICUT

Proposal Number: 2025-03

Point-of-Entry Treatment System for Killingworth Elementary School

PROPOSER'S STATEMENT OF REFERENCES

Provide at least three (3) references:

1. BUSINESS NAME _____

ADDRESS _____

CITY, STATE _____

TELEPHONE: _____

INDIVIDUAL CONTACT NAME AND POSITION : _____

EMAIL ADDRESS: _____

2. BUSINESS NAME _____

ADDRESS _____

CITY, STATE _____

TELEPHONE: _____

INDIVIDUAL CONTACT NAME AND POSITION : _____

EMAIL ADDRESS: _____

3. BUSINESS NAME _____

ADDRESS _____

CITY, STATE _____

TELEPHONE: _____

INDIVIDUAL CONTACT NAME AND POSITION : _____

EMAIL ADDRESS: _____

END OF STATEMENT OF REFERENCES

Attachment E-5

TOWN OF KILLINGWORTH, CONNECTICUT

Proposal Number: 2025-03

SAMPLE CONTRACT FOR POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

This Contract is made as of the ____ day of _____, 20__ (the "Effective Date"), by and between the Town of Killingworth, Connecticut, a municipal corporation organized and existing under the laws of the State of Connecticut (the "Town"), and *[name and address of successful proposer]* (the "Contracting Party").

RECITALS:

WHEREAS, the Town has issued a Request for Proposals for **PROJECT DESCRIPTION** (the "RFP"), a copy of which, along with any addenda, is attached as Exhibit A;

WHEREAS, the Contracting Party submitted a proposal to the Town dated _____ (the "Proposal"), a copy of which is attached as Exhibit B;

WHEREAS, the Town has selected the Contracting Party to perform the Work (as defined in Section 1 below); and

WHEREAS, the Town and the Contracting Party desire to enter into a formal contract for the performance of the Work.

NOW THEREFORE, in consideration of the recitals set forth above and the parties' mutual promises and obligations contained below, the parties agree as follows:

1. Work: The Contracting Party agrees to perform the Work described more fully in the attached Exhibits A and B (collectively, the "Work").

The Contracting Party also agrees to comply with all of the terms and conditions set forth herein and in the RFP, including but not only all of the terms set forth in Section 26 (the "Contract Terms") of the Standard Instructions to Bidders.

2. Term: []

3. Contract Includes Exhibits; Order of Construction: The Contract includes the RFP (Exhibit A) and the Proposal (Exhibit B), which are made a part hereof. In the event of a conflict or inconsistency between or among this document, the RFP, and the Proposal, this document shall have the highest priority, the RFP the second priority, and the Proposal the third priority.

4. Price and Payment:

5. Right to Terminate: If the Contracting Party's fails to comply with any of the terms, provisions or conditions of the Contract, including the exhibits, the Town shall have the right, in addition to all other available remedies, to declare the Contract in default and, therefore, to terminate it and to resubmit the subject matter of the Contract to further public procurement. In that event, the Contracting Party shall pay the Town, as liquidated damages, the

amount of any excess of the price of the new contract over the Contract price provided for herein, plus any legal or other costs or expenses incurred by the Town in terminating this Contract and securing a new contracting party.

6. No Waiver or Estoppel: Either party's failure to insist upon the strict performance by the other of any of the terms, provisions and conditions of the Contract shall not be a waiver or create an estoppel. Notwithstanding any such failure, each party shall have the right thereafter to insist upon the other party's strict performance, and neither party shall be relieved of such obligation because of the other party's failure to comply with or otherwise to enforce or to seek to enforce any of the terms, provisions and conditions hereof.

7. Notice: Any notices provided for hereunder shall be given to the parties in writing (which may be hardcopy, facsimile, or e-mail) and shall be effective upon receipt at their respective addresses set forth below:

If to the Town:

Eric Couture, First Selectman
Town of Killingworth
323 Route 81
Killingworth, CT 06419
E-mail firstselectman@townofkillingworth.com

If to the Contracting Party:

[name]
Address
e-mail

8. Execution: This Contract may be executed in one or more counterparts, each of which shall be considered an original instrument, but all of which shall be considered one and the same agreement, and shall become binding when one or more counterparts have been signed by each of the parties hereto and delivered (including delivery by facsimile) to each of the parties.

IN WITNESS THEREOF, the parties have executed this contract as of the last date signed below.

TOWN OF KILLINGWORTH

By _____ Name: ERIC COUTURE
Its [First Selectman](#), Duly Authorized

Date: _____

[CONTRACTING PARTY LEGAL NAME]

By _____

Its _____, Duly Authorized

Date: _____

Attachment E-6

Town of Killingworth Prevailing Wages

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Middlesex	Haddam	17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	\$33.44	32.36 + a
Middlesex	Haddam	17h) Heavy Duty Trailer up to 40 tons	\$34.39	32.36 + a
Middlesex	Haddam	17i) Snorkle Truck	\$33.54	32.36 + a
Middlesex	Haddam	18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	\$49.98	32.85 + a
Middlesex	Haddam	19) Theatrical Stage Journeyman	\$25.76	7.34
Middlesex	Killingworth	1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 7**		
Middlesex	Killingworth	1c) Asbestos Worker/Heat and Frost Insulator	\$47.06	33.30
Middlesex	Killingworth	2) Boilermaker	\$46.21	29.35
Middlesex	Killingworth	3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	\$41.11	34.65 + a
Middlesex	Killingworth	3b) Tile Setter	\$38.81	32.20
Middlesex	Killingworth	3c) Tile and Stone Finishers	\$32.00	26.69
Middlesex	Killingworth	3d) Marble & Terrazzo Finishers	\$33.00	25.69
Middlesex	Killingworth	3e) Plasterer	\$44.52	29.63
Middlesex	Killingworth	-----LABORERS-----		
Middlesex	Killingworth	4) Group 1: General laborers, carpenter tenders, concrete specialists, wrecking laborers and fire watchers.	\$34.50	27.26
Middlesex	Killingworth	4) Group 1a: Acetylene Burners (Hours worked with a torch)	\$35.50	27.26
Middlesex	Killingworth	4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	\$34.75	27.26
Middlesex	Killingworth	4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	\$35.00	27.26

As of: July 1, 2024

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Middlesex	Killingworth	4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	\$35.50	27.26
Middlesex	Killingworth	4d) Group 5: Air track operator, sand blaster and hydraulic drills.	\$35.25	27.26
Middlesex	Killingworth	4e) Group 6: Blasters, nuclear and toxic waste removal.	\$37.50	27.26
Middlesex	Killingworth	4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	\$37.50	27.26
Middlesex	Killingworth	4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	\$35.00	27.26
Middlesex	Killingworth	4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	\$34.50	27.26
Middlesex	Killingworth	4i) Group 10: Traffic Control Signalman	\$20.70	27.26
Middlesex	Killingworth	4j) Group 11: Toxic Waste Removers A or B With PPE	\$37.50	27.26
Middlesex	Killingworth	5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	\$39.54	28.68
Middlesex	Killingworth	5a) Millwrights	\$40.56	28.87
Middlesex	Killingworth	6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	\$44.60	34.71+3% of gross wage
Middlesex	Killingworth	7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	\$64.01	39.19+a+b
Middlesex	Killingworth	----LINE CONSTRUCTION----		
Middlesex	Killingworth	Groundman	\$26.50	6.5% + 9.00
Middlesex	Killingworth	Linemen/Cable Splicer	\$48.19	6.5% + 22.00
Middlesex	Killingworth	8) Glazier (Trade License required: FG-1,2)	\$41.63	25.80+ a
Middlesex	Killingworth	9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	\$45.25	41.27 + a
Middlesex	Killingworth	----OPERATORS----		

As of: July 1, 2024

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Middlesex	Killingworth	Group 1: Crane Handling or Erecting Structural Steel or Stone; Hoisting Engineer (2 drums or over). (Trade License Required)	\$55.42	28.80 + a
Middlesex	Killingworth	Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and Over	\$50.79	28.80 + a
Middlesex	Killingworth	Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	\$55.03	28.80 + a
Middlesex	Killingworth	Group 2a: Cranes (under 100 ton rated capacity).	\$54.09	28.80 + a
Middlesex	Killingworth	Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer)	\$50.40	28.80 + a
Middlesex	Killingworth	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 Finegrade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	\$49.45	28.80 + a
Middlesex	Killingworth	Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper); Goldhofer.	\$48.97	28.80 + a
Middlesex	Killingworth	Group 5: Specialty Railroad Equipment; 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).	\$48.22	28.80 + a
Middlesex	Killingworth	Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	\$48.22	28.80 + a
Middlesex	Killingworth	Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	\$47.83	28.80 + a
Middlesex	Killingworth	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).	\$47.40	28.80 + a
Middlesex	Killingworth	Group 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welding; Work Boat Under 26 ft.; Transfer Machine; Rigger Foreman.	\$46.90	28.80 + a
Middlesex	Killingworth	Group 9: Front End Loader (under 3 cubic yards); Skid Steer Loader regardless of attachments; (Bobcat or Similar); Forklift, Power Chipper; Landscape Equipment (including Hydroseeder); Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	\$46.35	28.80 + a
Middlesex	Killingworth	Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	\$43.77	28.80 + a
Middlesex	Killingworth	Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	\$43.77	28.80 + a

As of: July 1, 2024

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Middlesex	Killingworth	Group 12: Wellpoint Operator.	\$43.69	28.80 + a
Middlesex	Killingworth	Group 13: Compressor Battery Operator.	\$42.97	28.80 + a
Middlesex	Killingworth	Group 14: Elevator Operator; Tow Motor Operator (solid tire no rough terrain).	\$41.52	28.80 + a
Middlesex	Killingworth	Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	\$41.01	28.80 + a
Middlesex	Killingworth	Group 16: Maintenance Engineer.	\$40.19	28.80 + a
Middlesex	Killingworth	Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator; Portable Grout Plant Operator; Portable Water Filtration Plant Operator.	\$45.63	28.80 + a
Middlesex	Killingworth	Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL license); Rigger; Signalman.	\$42.57	28.80 + a
Middlesex	Killingworth	Surveyor: Chief of Party	\$45.87	28.80 + a
Middlesex	Killingworth	Surveyor: Assistant Chief of Party	\$42.30	28.80 + a
Middlesex	Killingworth	Surveyor: Instrument Man	\$40.70	28.80 + a
Middlesex	Killingworth	Surveyor: Rodman or Chainman	\$35.03	28.80 + a
Middlesex	Killingworth	-----PAINTERS (Including Drywall Finishing)-----		
Middlesex	Killingworth	10a) Brush and Roller	\$38.07	25.80
Middlesex	Killingworth	10b) Taping Only/Drywall Finishing	\$38.82	25.80
Middlesex	Killingworth	10c) Paperhanger and Red Label	\$38.57	25.80
Middlesex	Killingworth	10e) Blast and Spray	\$41.07	25.80
Middlesex	Killingworth	11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	\$49.58	36.15
Middlesex	Killingworth	12) Well Digger, Pile Testing Machine	\$37.26	24.05 + a
Middlesex	Killingworth	13) Roofer (composition)	\$42.50	21.68
Middlesex	Killingworth	14) Roofer (slate & tile)	\$43.00	21.68

As of: July 1, 2024

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Middlesex	Killingworth	15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	\$43.89	44.02
Middlesex	Killingworth	16) Pipefitter (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	36.15
Middlesex	Killingworth	-----TRUCK DRIVERS-----		
Middlesex	Killingworth	17a) 2 Axle, Helpers	\$33.16	32.36 + a
Middlesex	Killingworth	17b) 3 Axle, 2 Axle Ready Mix	\$33.27	32.36 + a
Middlesex	Killingworth	17c) 3 Axle Ready Mix	\$33.33	32.36 + a
Middlesex	Killingworth	17d) 4 Axle	\$33.39	32.36 + a
Middlesex	Killingworth	17e) 4 Axle Ready Mix	\$33.44	32.36 + a
Middlesex	Killingworth	17f) Heavy Duty Trailer (40 Tons and Over)	\$35.66	32.36 + a
Middlesex	Killingworth	17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	\$33.44	32.36 + a
Middlesex	Killingworth	17h) Heavy Duty Trailer up to 40 tons	\$34.39	32.36 + a
Middlesex	Killingworth	17i) Snorkle Truck	\$33.54	32.36 + a
Middlesex	Killingworth	18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	\$49.98	32.85 + a
Middlesex	Killingworth	19) Theatrical Stage Journeyman	\$25.76	7.34
Middlesex	Middlefield	1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.**See Laborers Group 7**		
Middlesex	Middlefield	1c) Asbestos Worker/Heat and Frost Insulator	\$47.06	33.30
Middlesex	Middlefield	2) Boilermaker	\$46.21	29.35
Middlesex	Middlefield	3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	\$41.11	34.65 + a

As of: July 1, 2024

Attachment F

State and Federal Regulations

DWSRF – Signage Requirements

Drinking Water State Revolving Fund Signage Requirements For Construction Projects

NEW: Projects funded under the Bipartisan Infrastructure Law (BIL), also known as Infrastructure Investment and Jobs Act (IIJA) must display a project sign at project construction sites. The sign must identify the project as a “project funded by President Joe Biden’s Bipartisan Infrastructure Law.” Such sign shall include the Investing In America logo, in accordance with the layout and design of signs described in Section 1 below. If your project is not receiving any BIL funds and is only receiving funding from DPH’s base DWSRF program, please refer to the Drinking Water State Revolving Fund (DWSRF) Standard Project Signage Requirement in Section 2. Project receiving funding from both the BIL and base DWSRF are only required to comply with the signage requirements in Section 1.

Before ordering or erecting a project sign, the DWSRF Program must be contacted to determine which sign to be displayed for specific projects.

Section 1: Bipartisan Infrastructure Law Signage Requirement

The BIL requires a physical sign displaying the official Investing In America emblem and an Environmental Protection Agency (EPA) logo at construction sites for BIL-funded projects. For the DWSRF program, this requirement applies to the following projects:

- Construction projects funded in whole or in part by BIL general supplemental funding;
- Construction projects that receive additional subsidization (i.e. principal forgiveness) made available by BIL general supplemental funding;
- All construction projects funded with BIL emerging contaminants funding;
- All construction projects funded with BIL lead service line replacement funding.

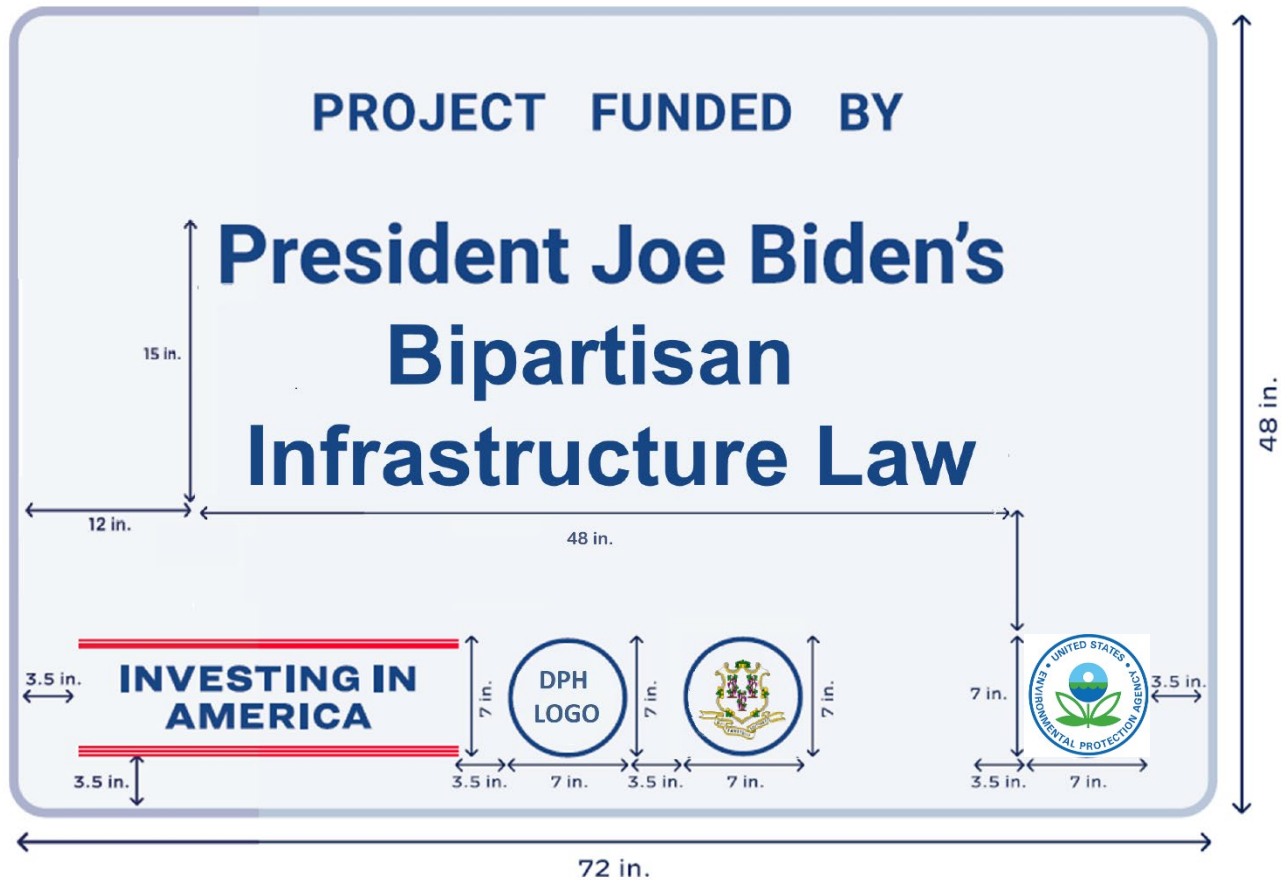
The sign must be placed at construction sites in an easily visible location that can be directly linked to the work taking place and must be maintained in good condition throughout the construction period. In cases where the construction site covers a large area (e.g., lead service line replacement projects), a sign should be placed in an easily visible location near where the work is being performed (e.g., entrance to the neighborhood, along a main road through town, etc.). Signage costs are considered an allowable SRF expense, provided the costs associated with the signage are reasonable. Additionally, to increase public awareness of projects serving communities where English is not the predominant language, assistance recipients are encouraged to translate the language on signs (excluding the official Investing In America emblem or EPA logo or seal) into the appropriate non-English language(s). The costs of such translation are allowable SRF expenses, provided the costs are reasonable.

The official Investing In America emblem and corresponding logomark are available at: [Investing-in-America-Brand-Guide.pdf \(whitehouse.gov\)](#). All assistance recipients shall follow the instructions outlined in this guide which includes the allowable font and color variations for the sign. Figure 1 provides the minimum size specifications and an example of the signage language and logos as it should appear for construction projects receiving DWSRF funding. The DWSRF Program will provide a self-adhesive CT State emblem along with the DPH and EPA logos to be affixed on the bottom of the project sign as detailed in Figure 1.

The EPA also provides signage information, instructions and templates:
<https://www.epa.gov/invest/investing-america-signage>

After the signage has been erected a [Certificate of Compliance – DWSRF Project Signage](#) form must be completed and sent electronically to the DWSRF mailbox to document compliance with this requirement.

Figure 1 – DWSRF BIL-Funded Project Sign Specifications



Section 2: DWSRF Standard Project Signage Requirement

The DWSRF standard project signage requirements apply to the construction phase of all public water system (PWS) drinking water projects with a total project cost (planning, design and construction) of \$100,000 or more that are receiving funding (wholly or partly) from the Drinking Water State Revolving Fund (DWSRF). This requirement is intended to enhance the public awareness of the DWSRF, and the positive impacts and benefits of the funding being provided by the State of Connecticut and the United States Environmental Protection Agency (EPA) to Connecticut's communities for public drinking water improvements. These projects have direct and tangible benefits to Connecticut's residents, businesses and visitors that are often taken for granted or go unnoticed. Awareness of the DWSRF funding is important to help gain public support for the DWSRF and communicate the importance of its role in lowering the overall cost to communities of maintaining safe and reliable public drinking water infrastructure. Connecticut's DWSRF Program has developed these guidelines to clarify these requirements and assist the PWS in complying with them. These guidelines are also consistent with the [memorandum that EPA issued to all State Revolving Fund programs \(Clean Water and Drinking Water\) on June 3, 2015](#) which outlines project signage expectations for projects funded in whole or in part with federal capitalization grants received by states.

Traditional construction projects typically require that a physical sign be erected at, or near, the project site where it can be seen by a broad audience. However, there may be instances where a DWSRF-funded project is located in an area where standard signage is unlikely to be seen by a broad audience, is not cost-effective or presents other unique challenges. Also, some projects may be spread across many locations (i.e. water meter replacements) and do not have a defined location. In these instances where the provision

of standard signage at the project site is not practical, this guidance provides an alternative option that PWSs can consider to satisfy state and federal signage requirements. **Any alternative that does not involve the erection of a standard project sign at, or near, the project site requires advance approval of the Department of Public Health's (DPH) Drinking Water Section (DWS) prior to implementation.**

DWSRF funded projects with a total project cost (planning, design and construction) less than \$100,000 **are not required** to comply with any signage requirements. Costs associated with complying with this signage requirement are eligible for DWSRF funding.

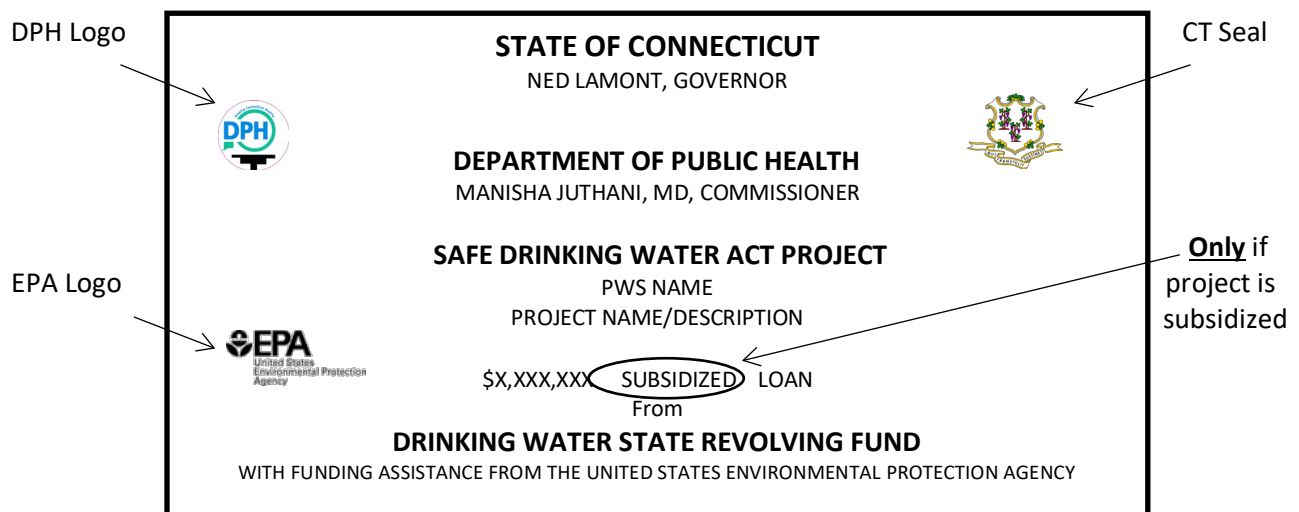
Options for complying with the DWSRF Standard Signage

Option A: Physical DWSRF Standard Project Sign

In general, large projects with a total construction cost of \$1,000,000 (one million dollars) or more that involve significant expansion or construction of a new or replacement facility are required to be publicized through standard signage. Signs should be erected near a major road or thoroughfare to effectively publicize the upgrades. There may be instances where the project is located in a remote area or on a dead end street which would be unlikely to provide the intended exposure of the sign to a broad audience. In these cases, the sign may be located away from the project site if there is another reasonable alternative. For example, a community may elect to place a sign advertising a project located at a remote reservoir (intake or pipeline project) on a major roadway near the treatment plant that will receive water from the new facility.

The project sign shall be erected prior to the start of any construction work and shall be in accordance with the specifications and project sign detail shown in Figure 2. The sign shall be furnished, erected, and maintained by the Contractor at a location designated by the Project Owner's engineer/representative. The names of the Commissioner of the DPH and the Governor of the State of Connecticut as shown on the sign shall be kept current, and shall be revised with 30 days of such notice to the Contractor that a change has occurred, at no cost to the Owner. No additional information shall be placed on the project sign beyond that shown in the project sign detail unless advance approval is obtained from the DWS. If the owner wishes to erect a supplemental sign with additional detail regarding the project or its sponsors, that sign shall be placed in a manner that the project sign is not obscured from public view. The sign shall not be removed until the project is completed.

Figure 2– DWSRF Standard Project Sign



DWSRF Standard Sign Specifications:

Sign: ¾” min. thickness exterior plywood (A-B) or APA high density overlay plywood (HDO)

Sign Dimensions: 4’ high x 8’ wide

Sign Face Background: White outdoor enamel paint (min. 3 coats)

Lettering Color: Black

Logos/State Seal: EPA logo, DPH logo and CT State seal stickers will be provided by DPH for the sign, placement should be generally in the locations shown in Figure 1. The project owner’s utility logo may be included in the remaining open corner.

Sign Positioning: Upright on posts clearly visible to public and project site visitors

Fasteners: Rustproof

The EPA logo specifications are available [here](#)

After the signage has been erected a [Certificate of Compliance – DWSRF Project Signage](#) form must be completed and sent electronically to the DWSRF mailbox to document compliance with this requirement.

Option B: DWSRF Standard Signage Posted on Website and Distributed to Customers

Smaller projects costing more than \$100,000 but less than \$1,000,000, projects located in remote areas, and projects without a defined project location may need a more cost-effective or practical method of complying with the signage requirement. The following alternative option may be considered in those instances. PWS can include a single-page pamphlet within water and sewer bills, provide a pamphlet as a separate mailing or hand deliver the pamphlet to customers. The use of a pamphlet should be combined with posting information on the PWS’s or municipality’s website (if available). This approach would effectively publicize the project to those individuals directly benefiting from the project as well as potentially reach other members of the community that have access to the website. The website information should be posted in an area of the website that receives high traffic volume (Example: “News” section). **Pamphlets and website posting shall be performed prior to the start of any construction work and website postings should remain active until the project is completed.**

Pamphlets and website postings must minimally include the following information:

- Name of facility, project and community
- State SRF administering the program
- Project is wholly or partially funded with EPA funding
- Brief description of the project
- Brief listing of water quality benefits to be achieved

PWSs are further encouraged to provide details of the interest rate and financial savings that the community achieved by taking advantage of SRF funds as well as the environmental and public health benefits to the community.

The following language is an example of information that a PWS may use for pamphlets and web postings.

[Date]

[Name of PWS] Receives Drinking Water State Revolving Fund [add “*Subsidized*” (if applicable)] Loan

Construction of upgrades and improvements to the [*insert name of facility*] were financed [*insert “in part” or “in whole”*] by the Drinking Water State Revolving Fund (DWSRF) in the amount of [*insert amount of DWSRF funding*]. The DWSRF program is administered by the Department of Public Health (DPH) with joint funding from the U.S. Environmental Protection Agency and the State of Connecticut. This project will [*insert description of project*] and will provide water quality benefits [*insert details specifying environmental and/or public health benefits of the project*] for community residents and businesses in and near [*insert name of town or city and, if appropriate, neighborhood*]. DWSRF programs operate around the country to provide states and communities a low-cost financing alternative to maintain and improve the infrastructure that protects our valuable public drinking water resources nationwide. For more information on the DWSRF please visit the DPH’s [DWSRF website](#).

PWSs that choose this option for signage compliance must receive advance approval from the DPH Drinking Water Section prior to implementation. Requests for approval may be sent electronically to the DWSRF mailbox at DPH.CTDWSRF@ct.gov. After the signage has been distributed to customers and posted to the PWS’s website a [Certificate of Compliance – DWSRF Project Signage](#) form must be completed and sent electronically to the DWSRF mailbox to document compliance with this requirement.

Translations per Executive Order 13166 and EPA Order 1000.32

PWSs must ensure that limited English proficient individuals have meaningful access to activities receiving federal funding, consistent with Presidential Executive Order 13166 and United States Environmental Protection Agency Order 1000.32. In this regard, to increase public awareness of projects serving communities where English is not the predominant language, PWSs are encouraged to translate the language used (excluding logos) into the appropriate non-English language(s). The cost of such translation is eligible for DWSRF funding provided the costs are reasonable.

DWSRF – Signage Example



STATE OF CONNECTICUT
NED LAMONT, GOVERNOR



DEPARTMENT OF PUBLIC HEALTH
MANISHA JUTHANI, MD, COMMISSIONER



SAFE DRINKING WATER ACT PROJECT

KILLINGWORTH ELEMENTARY SCHOOL

POINT-OF-ENTRY TREATMENT SYSTEM FOR KILLINGWORTH ELEMENTARY SCHOOL

\$X,XXX,XXX SUBSIDIZED LOAN

From

DRINKING WATER STATE REVOLVING FUND

WITH FUNDING ASSISTANCE FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

RCSA Section 22a-482-4 (includes (a) and (l2(c)vi)

Sec. 22a-482-4. Administrative program elements

(a) **Allowable Grant Costs.** Those costs associated with the planning, design and construction of pollution abatement facilities eligible for state grant assistance are as follows:

(1) costs of salaries, benefits, and expendable materials the municipality incurs for the project, except as provided for in subdivision (b) (8) of this section;

(2) costs under construction contracts;

(3) professional and consultant services;

(4) engineering report costs directly related to the pollution abatement facility;

(5) sewer system evaluation;

(6) project feasibility and related engineering reports;

(7) costs of complying with the Connecticut Environmental Policy Act, section 22a-1a to 22a-1h of the General Statutes, including costs of public notices and hearings;

(8) preparation of construction drawings, specifications, estimates and construction contract documents;

(9) reasonable landscaping;

(10) materials acquired, consumed, or expended specifically for the project;

(11) shop equipment installed at the pollution abatement facility necessary to the operation of the facility;

(12) a reasonable inventory of laboratory chemicals and supplies necessary to initiate plant operations;

(13) development and preparation of a preliminary and final plan of operation and an operation and maintenance manual;

(14) start-up services for new pollution abatement facilities;

(15) project identification signs;

(16) costs of complying with the procurement requirements of this section;

(17) the costs of technical services for assessing the merits of or negotiating the settlement of a claim by or against the municipality provided;

(A) a formal grant amendment is executed specifically covering the costs before they are incurred;

(B) the costs are not incurred to prepare documentation that should be prepared by the contractor to support a claim against the municipality; and

(C) the Commissioner determines that there is a significant state interest in the issues involved in the claim;

(18) change orders and the costs of meritorious contractor claims for increased costs, provided the costs are not caused by the municipality's mismanagement or vicarious liability for the improper action of others. Settlements, arbitration awards, and court judgments which resolve contractor claims shall be reviewed by the Commissioner and shall be allowable only to the extent they are not caused by municipality mismanagement, are reasonable, and do not attempt to pass on to the State of Connecticut the costs of events that were the responsibility of the municipality, contractor or others;

(19) costs necessary to mitigate only direct, adverse, or physical impacts resulting from the building of the pollution abatement facility;

(20) the cost of groundwater monitoring facilities necessary to determine the possibility

- of groundwater deterioration, depletion or modification resulting from the project;
- (21) for individual and small community systems, allowable costs which include:
 - (A) the cost of major rehabilitation, upgrading, enlarging and installing small and onsite systems, but in the case of privately owned systems, only for principal residences;
 - (B) conveyance pipes from the property line to an offsite treatment unit which serves a cluster of buildings;
 - (C) treatment and treatment residue disposal portions of toilets with composting tanks, oil flush mechanisms, or similar in-house devices;
 - (D) treatment or pumping units from the incoming flange, when located on private property, and conveyance pipes, if any, to the collector sewer; and
 - (E) the cost of restoring individual system building sites to their original condition;
 - (22) necessary safety equipment applicable to federal, state and local requirements;
 - (23) a portion of the costs of collection system maintenance equipment, as determined by the Commissioner;
 - (24) the cost of mobile equipment necessary for the operation of the overall pollution abatement facility, transmission of wastewater or sludge, or for the maintenance of equipment. These items include:
 - (A) portable stand-by generators;
 - (B) large portable emergency pumps to provide “pump-around” capability in the event of a pump station failure or pipeline breaks; and
 - (C) sludge or septic tank trucks, trailers, and other vehicles having as their sole purpose the transportation of liquid or dewatered wastes from the collector point (including individual or on-site systems) to the pollution abatement facility or disposal site;
 - (25) replacement parts identified and approved in advance by the Commissioner as necessary to assure uninterrupted operation of the pollution abatement facility, provided they are critical parts or major system components which are:
 - (A) not immediately available or whose procurement involves an extended “lead-time”;
 - (B) identified as critical by the equipment supplier(s); or
 - (C) critical but not included in the inventory provided by the equipment supplier(s);
 - (26) allowable costs for infiltration/inflow which include:
 - (A) the cost of sewer system and pollution abatement facility capacity adequate to transport and treat nonexcessive infiltration/inflow; and
 - (B) the costs of sewer system rehabilitation necessary to eliminate excessive infiltration/inflow as determined in a sewer system evaluation survey under section 22a-482-3 (g);
 - (27) the costs of royalties for the use of rights in a patented process or product with the prior approval of the Commissioner;
 - (28) the cost of legal and engineering services incurred by the municipality in deciding procurement protests and defending their decisions in protest appeals with the prior approval of the Commissioner;
 - (29) the cost of the services of the prime engineer required under subdivision (p) (10) of this section during the first year following initiation of operation of the pollution abatement facility; and
 - (30) the costs of municipal employees attending training workshops or seminars that are

necessary to provide instruction in administrative, fiscal or contracting procedures required to complete the construction of the pollution abatement facility, if approved in advance by the Commissioner.

(b) **Unallowable Grant Project Costs.** Costs which are not necessary for the construction of a pollution abatement facility are unallowable. Such costs include, but are not limited to:

- (1) basin or areawide planning not directly related to the project;
- (2) bonus payments not legally required for completion of construction before a contractual completion date;
- (3) personal injury compensation or damage arising out of the project whether determined by arbitration, negotiation, or otherwise;
- (4) unallowable costs for small and onsite systems which include:
 - (A) modification to physical structure of homes or commercial establishments;
 - (B) conveyance pipes from the house to the treatment unit located on user's property;and
- (C) wastewater generating fixtures such as commodes, sinks, tubs and drains;
- (5) fines and penalties due to violations of, or failure to comply with, federal, state, or local laws and regulations;
- (6) costs outside the scope of the approved project;
- (7) approval, preparation, issuance and sale of bonds or other forms of indebtedness required to finance the project, and the interest on them;
- (8) ordinary operating expenses of local government, such as salaries and expenses of a mayor, city council members, or city attorney, except as provided in subdivision (h) (13) of this section;
- (9) the costs of acquisition (including associated level, administrative, and engineering) of sewer rights-of-way, pollution abatement facility sites (including small systems sites), sanitary landfill sites and sludge disposal sites, except as provided in subsection (c) of this section;
- (10) costs for which payment has been or will be received under any federal assistance program;
- (11) the cost of vehicles used primarily for transportation, such as pickup trucks;
- (12) costs of equipment or materials acquired in violation of the procurement provisions of this section;
- (13) the cost of furnishings including draperies, furniture and office equipment;
- (14) the cost of ordinary site and building maintenance equipment, such as lawn mowers, snowblowers and vacuum cleaners;
- (15) costs of monitoring equipment used by industry for sampling and analysis of industrial discharges to a municipal pollution abatement facility;
- (16) construction of privately-owned pollution abatement facilities, including pretreatment facilities, except for individual systems;
- (17) preparation of applications, including a plan of study and permits required by federal, state or local laws and regulations;
- (18) administrative, engineering and legal activities associated with the establishment of special departments, agencies, commissions, regions, districts or other units of

government;

(19) the cost of a pollution abatement facility or any part thereof that would provide capacity for new habitation or other establishments to be located on environmentally sensitive land such as wetlands, floodplains, or prime agricultural lands;

(20) the costs of legal services of defending or negotiating the settlement of a claim by or against the municipality; and

(21) all incremental costs of delay due to the award of any significant subagreements for construction more than 12 months after the construction grant award.

(c) Allowable Grant Project Costs, If Approved.

(1) The cost (including associated legal, administrative and engineering costs) of land acquired in fee simple or by lease or easement that will be an integral part of the treatment process or that will be used for the ultimate disposal of residues resulting from such treatment provided the Commissioner approves it in the grant agreement. These costs include:

(A) the cost of a reasonable amount of land, considering irregularities in application patterns, and the need for buffer areas, berms, and dikes;

(B) the cost of land acquired for a soil absorption system for a group of two or more homes;

(C) the cost of land acquired for composting or temporary storage of compost residues which result from wastewater treatment;

(D) the cost of land acquired for storage of treated wastewater in land treatment systems before land application; and

(E) the cost paid by the municipality for eligible land in excess of just compensation based on the appraised value, the municipality's record of negotiation or a condemnation proceeding, as determined by the Commissioner, shall be unallowable.

(2) The cost associated with the preparation of the pollution abatement facility site before, during and, to the extent agreed on in the grant agreement, after building. These costs include:

(A) the cost of demolition of existing structures on the pollution abatement facilities site (including rights-of-way), if building cannot be undertaken without such demolition;

(B) the cost of removal, relocation or replacement of utilities, for which the municipality is legally obligated to pay under section 22a-470 of the General Statutes; and

(C) the cost of restoring streets and rights-of-way to their original condition. The need for such restoration shall result directly from the construction and is generally limited to repaving the width of trench.

(3) The cost of acquiring all or part of existing publicly or privately owned pollution abatement facilities, provided all of the following criteria are met:

(A) the acquisition, in and of itself, considered apart from any upgrade, expansion or rehabilitation, provides new pollution control benefits;

(B) the acquired pollution abatement facility was not built with previous federal or state financial assistance; and

(C) the primary purpose of the acquisition is not the reduction, elimination, or redistribution of public or private debt.

(d) Allowable Loan Project Costs:

(1) all costs allowable for grant participation under subsections (a) and (c) of this section;
(2) all costs necessary to complete the project including land, legal, rights-of-way, interest and claim settlements;

(3) all costs associated with incremental capacity for growth; and

(4) those costs a reasonable business person would incur when operating his or her own business necessary to construct the project.

(e) **Unallowable Loan Project Costs:**

(1) costs associated with improvements to municipal or private property not related to pollution control;

(2) costs associated with the liability of other contractors and subcontractors; and

(3) costs associated with waste, fraud or abuse.

(f) **Required Provisions for Architectural/Engineering Contracts.**

(1) Subagreement Enforcement.

(A) Commissioner's Authority. At a municipality's request the Commissioner may provide technical and legal assistance in the administration and enforcement of any subagreement related to a pollution abatement facility for which state financial assistance was made and intervene in any civil action involving the enforcement of such subagreements, including subagreement disputes which are the subject of either arbitration or court action. Any assistance to be provided is at the discretion of the Commissioner and in a manner determined by him or her to best serve the public interest. Factors which the Commissioner may consider in determining whether to provide assistance include:

(i) available department resources;

(ii) planned or ongoing enforcement action;

(iii) the municipality's demonstration of good faith in attempting to resolve the contract matters at issue;

(iv) the municipality's adequate documentation of the need for assistance; and

(v) the state's interest in the contract matters at issue.

(B) Municipality Request. The municipality's request for technical or legal assistance should be submitted in writing and be accompanied by documentation adequate to inform the Commissioner of the nature and necessity of the requested assistance.

(C) Privity of Subagreement. The Commissioner's technical or legal involvement in any subagreement dispute will not make the Commissioner a party to any subagreement entered into by the municipality.

(D) Municipality Responsibility. The provision of technical or legal assistance under this section in no way releases the municipality from its obligations under sections 22a-482-1 to 22a-482-4, inclusive, or affects the Commissioner's right to take remedial action against a municipality that fails to carry out those obligations.

(2) Subagreement Provisions.

(A) Each subagreement shall include provisions defining a sound and complete agreement, including the:

(i) nature, scope, and extent of work to be performed;

(ii) time frame for performance;

(iii) total cost of the subagreement; and

(iv) payment provisions.

(B) All subagreements awarded in excess of \$10,000 shall contain provisions requiring compliance with state and federal equal employment opportunity laws and regulations.

(3) Model Subagreement Clauses. Municipalities shall include subparagraphs (A) to (L), inclusive, of this subdivision or their equivalent in all subagreements for architectural or engineering services. (Municipalities may substitute other terms for “municipality” and “engineer” in their subagreements.)

(A) Supersession. The municipality and the engineer agree that this and other appropriate clauses in this section, or their equivalent, apply to the state grant eligible work to be performed under this subagreement and that these clauses supersede any conflicting provisions of this subagreement.

(B) Privity of Subagreement. This subagreement is expected to be funded in part with funds from the State of Connecticut, Department of Environmental Protection (DEP). Neither the state nor any of its departments, agencies, or employees is or will be a party to this subagreement or any lower tier subagreement. This subagreement is subject to sections 22a-482-1 to 22a-482-4 of the Regulations of Connecticut State Agencies in effect on the date of the grant award for the project.

(C) Changes to Subagreement.

(i) The municipality may at any time, by written order, make changes within the general scope of this subagreement in the services or work to be performed. If such changes cause an increase or decrease in the engineer’s cost or time required to perform any services under this agreement, whether or not changed by any order, an equitable adjustment shall be made and this subagreement shall be modified in writing. The engineer must assert any claim for adjustment under this clause in writing within 30 days from the date of receipt by the engineer of the notification of change, unless the municipality grants additional time before the date of final payment.

(ii) No services for which additional compensation will be charged by the engineer shall be furnished without the written authorization of the municipality.

(iii) In the event that there is a modification of the Commissioner’s requirements relating to the services to be performed under this agreement after the date of execution of this agreement, the increased or decreased cost of performance of the services provided for in the agreement shall be reflected in an appropriate modification of this agreement.

(D) Termination of Subagreement.

(i) This subagreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this subagreement through no fault of the terminating party. However, no termination may be effected unless the other party is given not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and an opportunity for consultation with the terminating party prior to termination.

(ii) This subagreement may be terminated in whole or in part in writing by the municipality for its convenience, provided that the engineer is given not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and an opportunity for consultation with the terminating party prior to termination.

(iii) If termination for default is effected by the municipality, an equitable adjustment in

the price provided for in this subagreement shall be made, but no amount shall be allowed for anticipated profit on unperformed services or other work and any payment due to the engineer at the time of termination may be adjusted to cover any additional costs to the municipality because of the engineer's default. If termination for default is effected by the engineer; or if termination for convenience is effected by the municipality; the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the engineer for services rendered and expenses incurred prior to the termination, in addition to termination and settlement costs reasonably incurred by the engineer relating to commitments which had become firm prior to the termination.

(iv) Upon receipt of a termination action pursuant to subparagraphs (D) (i) or (D) (ii) of this subdivision, the engineer shall promptly discontinue all services affected (unless the notice directs otherwise) and deliver or otherwise make available to the municipality all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the engineer in performing this subagreement, whether completed or in process.

(v) Upon termination under subparagraphs (D) (i) or (D) (ii) of this subdivision, the municipality may take over the work and may award another party a subagreement to complete the work under this subagreement.

(vi) If, after termination for failure of the engineer to fulfill contractual obligations, it is determined that the engineer had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the municipality. In such event, adjustment of the price provided for in this subagreement shall be made as provided in subparagraph (D) (iii) of this subdivision.

(E) Remedies. Except as may be otherwise provided in this subagreement, all claims, counter-claims, disputes, and other matters in question between the municipality and the engineer arising out of or relating to this subagreement, or the breach thereof, will be decided by arbitration, if the parties mutually agree, or in a court of competent jurisdiction within the district in which the municipality is located.

(F) Price Reduction for Defective Cost or Pricing Data (This clause is applicable if the amount of the agreement exceeds \$100,000). The engineer warrants that cost and pricing data submitted for evaluation with respect to negotiation of prices for negotiated subagreements and lower tier subagreements is based on current, accurate, and complete data supported by books and records. If the municipality or Commissioner determines that any price, including profit, negotiated in connection with this subagreement, any lower tier subagreement, or any amendment thereunder was increased by any significant sums because the data provided was incomplete, inaccurate, or not current at the time of submission, then such price, cost or profit shall be reduced accordingly, and the subagreement shall be modified in writing to reflect such reduction.

(NOTE– Since the subagreement is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontractors, the engineer may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the engineer. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for

defective cost or pricing data required to be submitted by lower tier subcontractors.)

(G) Audit; Access to Records.

(i) The engineer shall maintain books, records, documents, and other evidence directly pertinent to performance on grant work under this agreement in accordance with generally accepted accounting principles and practices consistently applied. The engineer shall also maintain the financial information and data used by the engineer in the preparation or support of the cost submission required for any negotiated subagreement or change order in effect on the date of execution of this agreement and a copy of the cost summary shall be submitted to the municipality. The municipality and Commissioner or any of his or her duly authorized representatives shall have access to all such books, records, documents, and other evidence for inspection, audit, and copying during normal business hours. The engineer will provide proper facilities for such access and inspection.

(ii) The engineer agrees to include subparagraphs (G) (i) to (G) (v) of this subdivision, inclusive, in all his contracts and all lower tier subcontracts directly related to project performance that are in excess of \$10,000, and to make subparagraphs (G) (i) to (G) (v) of this subdivision, inclusive, applicable to all change orders directly related to project performance.

(iii) Audits conducted under this subparagraph shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit department and shall meet the requirements of section 7-396a of the General Statutes.

(iv) The engineer agrees to the disclosure of all information and reports resulting from access to records under subparagraphs (G) (i) and (G) (ii) of this subdivision to any of the parties referred to in subparagraph (G) (i) of this subdivision, provided that the engineer is afforded the opportunity for an audit exit conference and an opportunity to comment and submit any supporting documentation on the pertinent portions of the draft audit report and that the final audit report will include written comments of reasonable length, if any, of the engineer.

(v) The engineer shall maintain and make available records under subparagraphs (G) (i) and (G) (ii) of this subdivision during performance on grant funded work under this agreement and until three (3) years from the date of final grant payment for the project. In addition, those records which relate to any dispute appeal arising under a grant agreement, to litigation, to the settlement of claims arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until three (3) years after the date of resolution of such appeal, litigation, claim, or exception.

(H) Covenant Against Contingent Fees. The engineer warrants that no person or selling agency has been employed or retained to solicit or secure this subagreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by the engineer for the purpose of securing business. For breach or violation of this warranty the municipality shall have the right to annul this agreement without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

(I) Gratuities.

(i) If the municipality finds after a notice and hearing that the engineer, or any of the

engineer's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of the municipality or the state, in an attempt to secure a subagreement or favorable treatment in awarding, amending, or making any determinations related to the performance of this agreement, the municipality may, by written notice to the engineer, terminate this agreement. The municipality may also pursue other rights and remedies that the law or this subagreement provides. However, the existence of the facts on which the municipality bases such findings shall be in issue and may be reviewed in proceedings under subparagraph (E) of this subdivision.

(ii) In the event this subagreement is terminated as provided in subparagraph (I) (i) of this subdivision the municipality may pursue the same remedies against the engineer as it could pursue in the event of a breach of the subagreement by the engineer and, as a penalty, in addition to any other damages to which it may be entitled by law, may pursue exemplary damages in an amount (as determined by the municipality) which shall be not less than three, nor more than ten times the costs the engineer incurs in providing any such gratuities to any such officer or employee.

(J) Responsibility of the Engineer.

(i) The engineer shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all designs, drawings, specifications, reports, and other services furnished by the engineer under this subagreement. The engineer shall, without additional compensation, correct or revise any errors, omissions, or other deficiencies in his designs, drawings, specifications, reports, and other services.

(ii) The engineer shall perform the professional services necessary to accomplish the work required to be performed under this subagreement, in accordance with this subagreement and applicable requirements of the Commissioner in effect on the date of execution of the assistance agreement for this project.

(iii) Approval by the municipality or the Commissioner of drawings, designs, specifications, reports, and incidental work or materials furnished hereunder shall not, in any way, relieve the engineer of responsibility for the technical adequacy of his work. Neither the municipality's nor Commissioner's review, approval, acceptance, or payment for any of the services shall be construed as a waiver of any rights under this subagreement or of any cause of action arising out of the performance of this subagreement.

(iv) The engineer shall be and shall remain liable, in accordance with applicable law, for all damages to the municipality or the state caused by the engineer's negligent performance of any of the services furnished under this subagreement, except for errors, omissions, or other deficiencies to the extent attributable to the municipality, municipality-furnished data, or any third party. The engineer shall not be responsible for any time delays in the project caused by circumstances beyond the engineer's control.

(v) The engineer's obligations under this subparagraph are in addition to the engineer's other expressed or implied warranties under this subagreement or state law and in no way diminish any other rights that the municipality may have against the engineer for faulty materials, equipment, or work.

(K) Payment.

(i) Payment shall be made in accordance with the payment schedule incorporated in this subagreement, as soon as practicable, upon submission of statements requesting payment

by the engineer to the municipality. If no such payment schedule is incorporated in this subagreement, the payment provisions of subparagraph (K) (ii) of this subdivision shall apply.

(ii) The engineer may request monthly progress payments and the municipality shall make them, as soon as practicable, upon submission of statements requesting payment by the engineer to the municipality. When such progress payments are made, the municipality may withhold up to ten (10) percent of the vouchered amount until satisfactory completion by the engineer of work and services within a step called for under this subagreement. When the municipality determines that the work under this subagreement, or any specified task hereunder, is substantially complete and that the amount of retained percentages is in excess of the amount considered by the municipality to be adequate for its protection, it shall release to the engineer such excess amount.

(iii) No payment request made under subparagraph (K) (i) or (K) (ii) of this subdivision shall exceed the estimated amount and value of the work and services performed by the engineer under this subagreement. The engineer shall prepare the estimates of work performed and shall supplement them with such supporting data as the municipality may require.

(iv) Upon satisfactory completion of the work performed under this subagreement, as a condition precedent to final payment under this subagreement or to settlement upon termination of the subagreement, the engineer shall execute and deliver to the municipality a release of all claims against the municipality arising under or by virtue of this subagreement, other than such claims, if any, as may be specifically exempted by the engineer from the operation of the release in stated amounts to be set forth therein.

(L) Copyrights and Rights in Data.

(i) The engineer agrees that any plans, drawings, designs, specifications, computer programs (which are substantially financed by state funds), technical reports, operating manuals, and other work submitted with an engineering report, with a design or for construction with financing assistance, or which are specified to be delivered under this subagreement, or which are developed or produced and paid for under this subagreement (referred to in subparagraph (L) (ii) of this subdivision as "subject data"), and including all raw data obtained or generated by the engineer during the course of his work under this subagreement, are subject to certain rights in the United States. These rights include the right to use, duplicate, and disclose such subject data, in whole or in part, in any manner for any purpose whatsoever, and to have others do so. If the material is copyrightable, the engineer may copyright it, subject to the rights of the state described herein, but the municipality and the state reserve a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, and use such materials, in whole or in part, and to authorize others to do so. The engineer shall include appropriate provisions to achieve the purpose of this condition in all subcontracts expected to produce copyrightable subject data; and

(ii) all such subject data furnished by the engineer pursuant to this subagreement are instruments of his services in respect to the project. It is understood that the engineer does not represent such subject data to be suitable for reuse on any other project or for any other purpose. If the municipality reuses the subject data without the engineer's specific written verification or adaptation, such reuse will be at the risk of the municipality without liability

to the engineer. Any such verification or adaptation will entitle the engineer to further compensation at rates agreed upon by the municipality and the engineer.

(g) **Required Provisions for Construction Contracts.** Municipalities must include, when appropriate, subdivisions (1) to (14), inclusive, of this subsection, or their equivalent, in each subagreement and may substitute other terms for “grantee” and “contractor” in their subagreements.

(1) Supersession. The municipality and the contractor agree that the following general provisions, or their equivalent, apply to eligible work to be performed under this contract and that these provisions supersede any conflicting provisions of this contract.

(2) Privity of Contract. This contract is expected to be funded in part by the State of Connecticut. Neither the state, nor any of its departments, agencies, or employees is or will be a party to this contract or any lower tier subcontract. This contract is subject to sections 22a-482-1 to 22a-482-4, inclusive, of the Regulations of Connecticut State Agencies.

(3) Changes for Contracts for Construction.

(A) The municipality may, at any time, without notice to any surety, by written order designated or indicated to be a change order, make any change in the work within the general scope of the subagreement, including but not limited to changes:

- (i) in the specifications (including drawings and designs);
- (ii) in the time, method, or manner of performance of the work;
- (iii) in the municipality-furnished facilities, equipment, materials, services, or site; or
- (iv) directing acceleration in the performance of the work.

(B) A change order shall also be any other written or oral order (including direction, instruction, interpretation or determination) from the municipality which causes any change, provided the contractor gives the municipality written notice stating the date, circumstances, and source of the order and that the contractor regards the order as a change order.

(C) Except as provided in subdivision (3) of this subsection, no order, statement, or conduct of the municipality shall be treated as a change under subdivision (3) of this subsection or entitle the contractor to an equitable adjustment.

(D) If any change under subdivision (3) of this subsection causes an increase or decrease in the contractor’s cost or the time required to perform any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the subagreement modified in writing. However, for claims based on defective specifications, no claim for any change under subparagraph (B) of this subdivision shall be allowed for any costs incurred more than 20 days before the contractor gives written notice as required in subparagraph (B) of this subdivision. In the case of defective specifications for which the municipality is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the contractor in attempting to comply with those defective specifications.

(E) If the contractor intends to assert a claim for an equitable adjustment under this clause, he shall, within thirty (30) days after receipt of a written change order under subparagraph (A) of this subdivision, or the furnishing of a written notice under subparagraph (B) of this subdivision, submit to the grantee a written statement setting forth the general nature and monetary extent of such claim. The municipality may extend the 30-day period. The statement of claim may be included in the notice under subparagraph (B)

of this subdivision.

(F) No claim by the contractor for an equitable adjustment shall be allowed if made after final payment under this contract.

(4) Changes for Contracts for Supplies.

(A) The municipality may at any time, by a written order and without notice to the sureties, make changes within the general scope of this subagreement in any one or more of the following:

(i) drawings, designs, or specifications, where the supplies to be furnished are to be specially manufactured for the municipality;

(ii) method of shipment or packing; and (iii) place of delivery.

(B) If any change causes an increase or decrease in the cost or the time required to perform any part of the work under this subagreement, whether or not changed by any such order, an equitable adjustment shall be made in the subagreement price or delivery schedule, or both, and the subagreement shall be modified in writing. Any claim by the contractor or adjustment under this clause shall be asserted within thirty (30) days from the date of receipt by the contractor of the notification of change. If the municipality decides that the facts justify such action, the municipality may receive and act upon any such claim asserted at any time before final payment under this subagreement. Where the cost of property is made obsolete or excessive as a result of a change is included in the contractor's claim for adjustment, the grantee shall have the right to prescribe the manner of disposition of such property. Nothing in this subdivision shall excuse the contractor from proceeding with the subagreement as changed.

(5) Differing Site Conditions.

(A) The contractor shall promptly, and before such conditions are disturbed, notify the municipality in writing of:

(i) subsurface or latent physical conditions at the site differing materially from those indicated in this subagreement; or

(ii) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this subagreement. The municipality shall promptly investigate the conditions and, if it finds that conditions are materially different and will cause an increase or decrease in the contractor's cost or the time required to perform any part of the work under this subagreement, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the subagreement modified in writing.

(B) No claim of the contractor under this subdivision shall be allowed unless the contractor has given notice required in subparagraph (A) of this subdivision. However, the municipality may extend the prescribed time.

(C) No claim by the contractor for an equitable adjustment shall be allowed if asserted after final payment under this subagreement.

(6) Suspension of Work.

(A) The municipality may order the contractor, in writing, to suspend, delay, or interrupt all or any part of the work for such period of time as the municipality may determine to be appropriate for the convenience of the municipality.

(B) If the performance of all or any part of the work is suspended, delayed, or interrupted

for an unreasonable period of time by an act of the municipality in administration of the contract, (or if no time is specified, within a reasonable time), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing. However, no adjustment shall be made under this subdivision for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the contractor, or for which an equitable adjustment is provided for, or excluded, under any other provision of the contract.

(C) No claim under this subdivision shall be allowed for any costs incurred more than twenty (20) days before the contractor notified the municipality in writing of the act or failure to act involved (this requirement does not apply to a claim resulting from a suspension order), and unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment under the contract.

(7) Termination.

(A) This contract may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this subagreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and an opportunity for consultation with the terminating party prior to termination.

(B) This contract may be terminated in whole or in part in writing by the municipality for its convenience, provided that the contractor is given not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and an opportunity for consultation with the terminating party prior to termination.

(C) If termination for default is effected by the municipality, an equitable adjustment in the price provided for in this contract shall be made but no amount shall be allowed for anticipated profit on unperformed services or other work, and any payment due to the contractor at the time of termination may be adjusted to cover any additional costs to the municipality because of the contractor's default. If termination for default is effected by the contractor, or if termination for convenience is effected by the municipality, the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the contractor for services rendered and expenses incurred prior to the termination in addition to termination settlement costs reasonably incurred by the contractor relating to commitments which had become firm prior to the termination.

(D) Upon receipt of a termination action pursuant to subparagraphs (A) or (B) of this subdivision, the contractor shall promptly discontinue all services affected (unless the notice directs otherwise), and deliver or otherwise make available to the municipality all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the contractor in performing this contract whether completed or in process.

(E) Upon termination under subparagraphs (A) or (B) of this subdivision the municipality

may take over the work and may award another party a contract to complete the work under this contract.

(F) If, after termination for failure of the contractor to fulfill contractual obligations, it is determined that the contractor had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the municipality. In such event, adjustment of the price provided for in this contract shall be made as provided in subparagraph (C) of this subdivision.

(8) Remedies. Except as may be otherwise provided in this contract, all claims, counter-claims, disputes, and other matters in question between the municipality and the contractor arising out of or relating to this contract or the breach thereof will be decided by arbitration, if the parties mutually agree, or in a court of competent jurisdiction within the district in which the municipality is located.

(9) Price Reduction for Defective Cost or Pricing Data.

NOTE— This subdivision is applicable to any contract negotiated between the municipality and its contractor in excess of \$500,000; negotiated change orders in excess of \$500,000 or 10 percent of the contract, whichever is less, affecting the price of a formally advertised, competitively awarded, fixed price contract; or any lower tier subcontract or purchase order in excess of \$500,000 or 10 percent of the assistance agreement, whichever is less, under a contract other than a formally advertised, competitively awarded, fixed price subagreement. This subdivision is not applicable for contracts to the extent that they are awarded on the basis of effective price competition.

The contractor and subcontractor, where appropriate, warrant that cost and pricing data submitted for evaluation with respect to negotiation of prices for negotiated contracts, lower tier subcontracts and change orders is based on current, accurate, and complete data supported by their books and records. If the municipality or the Commissioner determines that any price (including profit) negotiated in connection with this contract, any lower tier subcontract, or any amendment thereunder was increased by any significant sums because the data provided was incomplete, inaccurate, or not current at the time of submission, then such price, cost, or profit shall be reduced accordingly, and the contract shall be modified in writing to reflect such reduction. Failure to agree on a reduction shall be subject to subdivision (8) of this subsection.

NOTE— Since the contract is subject to reduction under this subdivision by reason of defective cost or pricing data submitted in connection with lower tier subcontracts, the contractor may wish to include a clause in each lower tier subcontract requiring the lower tier subcontractor to appropriately indemnify the contractor. It is also expected that any lower tier subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by lower tier subcontractors.

(10) Audit; Access to Records.

(A) The contractor shall maintain books, records, documents, and other evidence directly pertinent to performance on grant work under this contract in accordance with generally accepted accounting principles and practices consistently applied. The contractor shall also maintain the financial information and data used by the contractor in the preparation or support of the cost submission required under section 22a-482-4 (i) (6) for any negotiated

contract or change order and a copy of the cost summary submitted to the municipality. The municipality and the Commissioner or any of his or her authorized representatives shall have access to all such books, records, documents, and other evidence for the purpose of inspection, audit and copying during normal business hours. The contractor will provide proper facilities for such access and inspection.

(B) If this is a formally advertised, competitively awarded, fixed price contract, the contractor agrees to make subparagraphs (A) to (F), inclusive, of this subdivision applicable to all negotiated change orders and contract amendments affecting the contract price. In the case of all other types of prime contracts, the contractor agrees to include subparagraphs (A) to (F), inclusive, of this subdivision in all his subcontracts in excess of \$10,000 and to subparagraphs (A) through (F), inclusive, of this subdivision applicable to all change orders directly related to project performance.

(C) Audits conducted under this subdivision shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit departments and shall meet the requirements of section 7-396a of the General Statutes.

(D) The contractor agrees to disclose all information and reports resulting from access to records under subparagraphs (A) and (B) of this subdivision to any of the parties referred to in subparagraph (A) of this subdivision.

(E) Records under subparagraphs (A) and (B) of this subdivision shall be maintained and made available during performance on assisted work under this contract and until three years from the date of final state payment for the project. In addition, those records which relate to any dispute appeal arising under a grant assistance agreement, to litigation, to the settlement of claims arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until three years after the date of resolution of such appeal, litigation, claim, or exception.

(F) This right of access provision (with respect to financial records) applies to:

- (i) negotiated prime subagreements;
- (ii) negotiated change orders or contract amendments in excess of \$10,000 affecting the price of any formally advertised, competitively awarded, fixed price contract; and
- (iii) subcontracts or purchase orders under any contract other than a formally advertised, competitively awarded, fixed price contract. However, this right of access does not apply to a prime contract, lower tier subcontract, or purchase order awarded after effective price competition, except with respect to records pertaining directly to contract performance, (excluding any financial records of the contractor), if there is any indication that fraud, gross abuse, or corrupt practices may be involved or if the contract is terminated for default or for convenience.

(11) **Covenant Against Contingent Fees.** The contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the contractor for the purpose of securing business. For breach or violation of this warranty the grantee shall have the right to annul this agreement without liability or, at its discretion, to deduct from the contract price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

(12) Gratuities.

(A) If the municipality finds, after a notice and hearing, that the contractor, or any of the contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of the municipality or the state, in an attempt to secure a contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this agreement, the municipality may, by written notice to the contractor, terminate this agreement. The municipality may also pursue other rights and remedies that the law or this agreement provides. However, the existence of the facts on which the municipality bases such findings shall be in issue and may be reviewed in proceedings under subdivision (8) of this subsection.

(B) In the event this contract is terminated, as provided in subparagraph (A) of this subdivision, the municipality may pursue the same remedies against the contractor as it could pursue in the event of a breach of the contract by the contractor and, as a penalty, in addition to any other damages to which it may be entitled by law, may pursue exemplary damages in an amount (as determined by the grantee) which shall be not less than three nor more than ten times the costs the contractor incurs in providing any such gratuities to any such officer or employee.

(13) Responsibility of the Contractor.

(A) The contractor agrees to perform all work under this agreement in accordance with this agreement's designs, drawings, and specifications.

(B) The contractor warrants and guarantees for a period of one (1) year from the date of substantial completion of the system that the completed system is free from all defects due to faulty materials, equipment or workmanship; and the contractor shall promptly make whatever adjustments or corrections necessary to cure such defects, including repairs of any damage to other parts of the system resulting from such defects. The municipality shall give notice to the contractor of observed defects with reasonable promptness. In the event that the contractor fails to make adjustments, repairs, corrections or other work that may be made necessary by such defect, the municipality may do so and charge the contractor the cost incurred. The performance bond shall remain in full force and effect through the guarantee period.

(C) The contractor's obligations under this subdivision are in addition to the contractor's other express or implied warranties under this agreement or state law and in no way diminish any other rights that the municipality may have against the contractor for faulty material, equipment, or work.

(14) Final Payment. Upon satisfactory completion of the work performed under this agreement, as a condition before final payment under this agreement, or as a termination settlement under this agreement, the contractor shall execute and deliver to the municipality a release of all claims against the municipality arising under or by virtue of this agreement, except claims which are specifically exempted by the contractor to be set forth therein. Unless otherwise provided in this agreement or by state law or otherwise expressly agreed to by the parties to this agreement, final payment under this agreement or settlement upon termination of this agreement shall not constitute a waiver of the municipality's claims against the contractor or his sureties under this agreement or applicable performance and payment bonds.

(h) Procurement Requirements—General.

(1) **Applicability.** This subsection defines the responsibilities of the state and the municipality and the minimum procurement standards for each municipality's procurement system.

(2) **Municipality Responsibility.**

(A) The municipality is responsible for the settlement and satisfactory completion, in accordance with sound business judgment and good administrative practice, of all contractual and administrative issues arising out of subagreements entered into under the assistance agreement. This includes issuance of invitations for bids or requests for proposals, selection of contractors, award of subagreements, settlement of protests, claims, disputes and other related procurement matters.

(B) The municipality shall maintain a subagreement administration system to assure that contractors perform in accordance with the terms, conditions and specifications of their subagreements.

(C) The municipality shall review its proposed procurement actions to avoid purchasing unnecessary or duplicative items.

(D) The municipality shall consider consolidating its procurement or dividing it into parts to obtain a more economical purchase.

(E) Where appropriate, the municipality shall make an analysis of lease versus purchase alternatives in its procurement actions.

(F) A municipality may request technical assistance from the Commissioner for the administration and enforcement of any subagreement awarded under this section. However, such assistance does not relieve the municipality of its responsibilities under this section, 22a-482-4.

(G) A municipality may use innovative procurement methods or procedures only if it receives the Commissioner's prior written approval.

(3) **Municipality Reporting Requirements.** The municipality shall request, in writing, the Commissioner's authorization to award each construction subagreement which has an aggregate value over \$10,000. The request shall include:

(A) name, address, telephone number and employee identification number of the construction contractor;

(B) amount of the award;

(C) estimated starting and completion dates;

(D) project number, name and site location of the project; and

(E) copy of the tabulations of bids or offers and the name of each bidder or offeror.

(4) **Copies of Contract Documents.** The municipality shall promptly submit to the Commissioner copies of any prime contract or modification thereof, and revisions to plans and specifications.

(5) **Limitations on Subagreement Award.**

(A) The municipality shall award subagreements only to responsible contractors that possess the potential ability to perform successfully under the terms and conditions of a proposed procurement. A responsible contractor is one that has:

(i) financial resources, technical qualifications, experience, an organization and facilities adequate to carry out the project, or a demonstrated ability to obtain these;

- (ii) resources to meet the completion schedule contained in the subagreement;
 - (iii) a satisfactory performance record for completion of subagreements;
 - (iv) accounting and auditing procedures adequate to control property, funds and assets;
- and

(v) demonstrated compliance or willingness to comply with the civil rights, equal employment opportunity, labor laws and other statutory requirements.

(B) The municipality shall not make awards to contractors who have been suspended or debarred by a Connecticut state agency.

(6) Violations. The municipality shall refer violations of law to the local or state officials having the proper jurisdiction.

(7) Competition.

(A) The municipality shall conduct all procurement transactions in a manner that provides maximum open and free competition.

(B) Procurement practices shall not unduly restrict or eliminate competition. Examples of practices considered to be unduly restrictive include:

- (i) noncompetitive practices between firms;
- (ii) organizational conflicts of interest;
- (iii) unnecessary experience and bonding requirements;
- (iv) local laws, ordinances, regulations or procedures which give local bidders or proposers preference over other bidders or proposers in evaluating bids or proposals; and
- (v) placing unreasonable requirements on firms in order for them to qualify to do business.

(C) The municipality may use a prequalification list(s) of persons, firms or products if it:

- (i) updates its prequalified list(s) at least every six months;
- (ii) reviews and acts on each request for prequalification made more than thirty (30) days before the closing date for receipt of proposals or bid opening; and
- (iii) gives adequate public notice of its prequalification procedures in accordance with the public notice procedures.

(D) A municipality may not use a prequalified list(s) of persons or firms if the procedure unnecessarily restricts competition.

(8) Profit.

(A) Municipalities shall assure that only fair and reasonable profits are paid to contractors awarded subagreements under state assistance agreements.

(B) The municipality shall negotiate profit as a separate element of price for each subagreement in which there is no price competition or where price is based on cost analysis.

(C) Where the municipality receives two or more bids, profit included in a formally advertised, competitively bid, fixed price subagreement shall be considered reasonable.

(D) Off-the-shelf or catalog supplies are exempt from this subparagraph.

(9) Use of Small, Minority, and Women's Businesses. The municipality shall take affirmative steps to assure that small, minority, and women's businesses are used to the maximum extent practicable. The Commissioner may impose goals as conditions of financial assistance.

(10) Privity of Subagreement. The state shall not be a party to any subagreement nor to

any solicitation or request for proposals.

(11) Documentation.

(A) Procurement records and files for procurements in excess of \$10,000 shall include the following:

- (i) the basis for contractor selection;
- (ii) written justification for selection of the procurement method;
- (iii) written justification for use of any specification which does not provide for maximum free and open competition;
- (iv) written justification for the type of subagreement; and
- (v) the basis for award cost or price, including a copy of the cost or price analysis made and documentation of negotiations; and

(B) The municipality shall state the reasons in writing for rejecting any or all bids and the justification for procurements on a noncompetitively negotiated basis and make them available for public inspection.

(12) Specifications.

(A) Nonrestrictive Specifications.

(i) No specification for bids or statement of work shall be written in such a manner as to contain proprietary, exclusionary or discriminatory requirements, other than those based upon performance, unless such requirements are necessary to test or demonstrate a specific thing or to provide for necessary interchangeability of parts and equipment, or at least two brand names or trade names of comparable quality or utility are listed and are followed by the words "or equal." If brand or trade names are specified, the municipality shall be prepared to identify to the Commissioner, or in any protest action, the salient requirements (relating to the minimum needs of the project) which shall be met by any offeror. The single base bid method of solicitation for equipment and parts for determination of a low, responsive bidder may not be utilized. With regard to materials, if a single material is specified, the municipality shall be prepared to substantiate the basis for the selection of the material.

(ii) Project specifications shall, to the extent practicable, provide for maximum use of structures, machines, products, materials, construction methods, and equipment which are readily available through competitive procurement or through standard or proven production techniques, methods, and processes.

(B) Sole Source Restriction. A specification shall not require the use of structures, materials, equipment, or processes which are known to be available only from a sole source, unless the Commissioner determines, in advance, that the municipality's engineer has adequately justified, in writing, that the proposed use meets the particular project's minimum needs or the Commissioner determines that use of a single source is necessary to promote innovation.

(C) Experience Clause Restriction. The general use of experience clauses requiring equipment manufacturers to have a record of satisfactory operation for a specified period of time or of bonds or deposits to guarantee replacement in the event of failure is restricted to special cases where the municipality's engineer adequately justifies any such requirement in writing. Where such justification has been made, submission of a bond or deposit shall be permitted instead of a specified experience period. The period of time for which the bond

or deposit is required should not exceed the experience period specified.

(13) Force Account Work.

(A) The municipality shall receive the Commissioner's prior written approval for use of the force account method for any planning, design work or construction work, unless the grant agreement stipulates the force account method.

(B) The Commissioner may approve the force account method upon the municipality's demonstration that it possesses the necessary competence required to accomplish such work and that the work can be accomplished more economically by use of the force account method or emergency circumstances dictate its use.

(C) Use of the force account method for construction work shall generally be limited to minor portions of a project.

(14) Code of Conduct.

(A) The municipality shall maintain a written code or standard of conduct which shall govern the performance of its officers, employees, or agents engaged in the award and administration of subagreements supported by state funds. No employee, officer or agent of the municipality shall participate in the selection, award or administration of a subagreement supported by state funds if a conflict of interest, real or apparent, would be involved.

(B) Such a conflict would arise when:

(i) any employee, officer or agent of the municipality, any member of the immediate families, or their partners, have a financial or other interest in the firm selected for award; or

(ii) an organization which may receive or has been awarded a subagreement employs, or is about to employ, any person under subparagraph (B) (i) of this subdivision.

(C) The municipality's officers, employees or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors or other parties to subagreements.

(D) Municipalities may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal value.

(E) To the extent permitted by state or local law or regulations, the municipality's code of conduct shall provide for penalties, sanctions or other disciplinary actions for violations of the code by the municipality's officers, employees or agents or by contractors or their agents.

(15) Payment to Consultants.

(A) For all state assistance agreements, the state shall limit its participation in the salary rate (excluding overhead) paid to individual consultants retained by a municipality or by a municipality's contractors or subcontractors to the maximum daily rate for a GS-18 federal employee. (Municipality's may, however, pay contractors and subcontractors more than this amount.) This limitation applies to consultation services of designated individuals with specialized skills who are paid at a daily or hourly rate. The rate does not include transportation and subsistence costs for travel performed; municipalities shall pay these costs in accordance with their normal travel reimbursement practices.

(B) Subagreements with firms for services which are awarded using these procurement requirements are not affected by this limitation.

(16) Cost and Price Considerations.

(A) The municipality shall conduct a cost analysis of all negotiated change orders and all negotiated subagreements estimated to exceed \$10,000.

(B) The municipality shall conduct a price analysis of all formally advertised procurements estimated to exceed \$10,000, if there are fewer than three bidders.

(C) For negotiated procurement, contractors and subcontractors shall submit cost or pricing data in support of their proposals to the municipality.

(17) Small Purchases.

(A) Small Purchase Procurement. If the aggregate amount involved in any one procurement transaction does not exceed \$10,000, including estimated handling and freight charges, overhead and profit, the municipality may use small purchase procedures.

(B) Small Purchase Procedures. Small purchase procedures are relatively simple procurement methods that are sound and appropriate for procurement of services, supplies or other property costing in the aggregate not more than \$10,000.

(C) Requirements for Competition.

(i) Municipalities shall not divide a procurement into smaller parts to avoid the dollar limitation for competitive procurement.

(ii) Municipalities shall obtain price or rate quotations from an adequate number of qualified sources.

(18) Negotiation and Award of Subagreements.

(A) Unless the request for proposals states that an award may be based on initial offers alone, the municipality shall conduct meaningful negotiations with the best qualified offerors with acceptable proposals within the competitive range, and permit revisions to obtain best and final offers. The best qualified offerors shall have equal opportunities to negotiate or revise their proposals. During negotiations, the municipality shall not disclose the identity of competing offerors or any information from competing proposals.

(B) The municipality shall award the subagreement to the responsible offeror whose proposal is determined in writing to be the most advantageous to the municipality, taking into consideration price and other evaluation criteria set forth in the request for proposals.

(C) The municipality shall promptly notify unsuccessful offerors that their proposals were rejected.

(D) The municipality shall document its procurement file to indicate how proposals were evaluated, what factors were used to determine the best qualified offerors within the competitive range, and what factors were used to determine the subagreement award.

(19) Optional Selection Procedure for Negotiation and Award of Subagreements for Architectural and Engineering Services.

(A) The municipality may evaluate and select an architect or engineer using the procedures in this subdivision in place of the procedures in "Negotiation and Award of Subagreements" in subdivision (18) of this subsection.

(B) The municipality may use responses from requests for statements of qualifications to determine the most technically qualified architects or engineers.

(C) After selecting and ranking the most qualified architects or engineers, the municipality shall request technical proposals from those architects or engineers and inform them of the evaluation criteria the municipality will use to rank the proposals.

(D) The municipality shall then select and determine, in writing, the best technical proposal.

(E) After selecting the best proposal, the municipality shall attempt to negotiate fair and reasonable compensation with that offeror.

(F) If the municipality and the offeror of the best proposal cannot agree on the amount of compensation, the municipality shall formally terminate negotiations with that offeror. The municipality shall then negotiate with the offeror with the next best proposal. This process shall continue until the municipality reaches agreement on compensation with an offeror with an acceptable proposal. Once the municipality terminates negotiations with an offeror, the municipality cannot go back and renegotiate with that offeror.

(20) Noncompetitive Negotiation Procurement Method. Noncompetitive negotiation may be used only when the award of a subagreement is not feasible under small purchase, formal advertising, or competitive negotiation procedures. The municipality may award a noncompetitively negotiated subagreement only under the following circumstances:

(A) the item is available only from a single source;

(B) a public exigency or emergency exists and the urgency for the requirement will not permit a delay incident to competitive procurement; or

(C) after solicitation from a number of sources, competition is determined to be inadequate.

(21) Use of the Same Architect or Engineer During Construction.

(A) If the municipality is satisfied with the qualifications and performance of the architect or engineer who provided any or all of the planning or design services for the project, it may wish to retain that firm or individual during construction of the project. The municipality may do so without further public notice and evaluation of qualifications provided that it received financial assistance for the planning and/or design services and selected the architect or engineer in accordance with these procurement regulations.

(B) However, if the municipality uses the procedures in subparagraph (A) of this subdivision to retain an architect or engineer, any construction subagreements between the architect or engineer and the municipality shall meet the procurement provisions of subdivision (i) (5) of this section.

(22) Negotiation of Subagreements.

(A) Formal advertising, with adequate purchase descriptions, sealed bids, and public openings shall be the required method of procurement unless negotiation under subparagraph (B) of this subdivision is necessary to accomplish sound procurement.

(B) All negotiated procurement shall be conducted in a manner to provide to the maximum practicable extent open and free competition appropriate to the type of project work to be performed. The municipality is authorized to negotiate subagreements if any of the following conditions exist:

(i) public exigency will not permit the delay incident to formally advertised procurement (e.g. an emergency procurement); or

(ii) the aggregate amount involved does not exceed \$10,000; or

(iii) the material or service to be procured is available from only one person or entity. If the procurement is expected to aggregate more than \$10,000, the municipality shall document its file with a justification of the need for noncompetitive procurement, and

provide such documentation to the Commissioner on request; or

(iv) the procurement is for personal or professional services (including architectural or engineering services) or for any service that a university or other educational institution may render; or

(v) no responsive, responsible bids at acceptable price levels have been received after formal advertising and the Commissioner's prior written approval has been obtained; or

(vi) the procurement is for materials or services where the price is established by law; or

(vii) the procurement is for technical items or equipment requiring standardization and interchangeability of parts with existing equipment; or

(viii) the procurement is for experimental, developmental or research services.

(23) Enforcement. If the Commissioner determines that the municipality has failed to comply with any of the provisions of this subsection, he or she may impose any of the following sanctions:

(A) the grant may be terminated or annulled under subsection (t) of this section; or

(B) project costs directly related to the noncompliance may be disallowed; or

(C) payment otherwise due to the municipality of up to 10 percent may be withheld; or

(D) project work may be suspended under subdivision (g) (6) of this section; or

(E) a noncomplying municipality may be found nonresponsible or ineligible for future state funding assistance or a noncomplying contractor may be found nonresponsible or ineligible for approval for future contract awards under state grants; or

(F) an injunction may be entered or other equitable relief afforded by a court of appropriate jurisdiction; or

(G) such other administrative or judicial action may be instituted if it is legally available and appropriate.

(24) Contract Enforcement and Commissioner Authority. At the request of a municipality, the Commissioner is authorized to provide technical and legal assistance in the administration and enforcement of any contract related to pollution abatement facilities for which a state grant was made and to intervene in any civil action involving the enforcement of such contracts, including contract disputes which are the subject of either arbitration or court action in accordance with the requirements of subdivision (f) (1) of this section.

(i) Architectural/Engineering Procurement Requirements.

(1) Type of Contract (Subagreement).

(A) General. Cost-plus-percentage-of-cost and percentage-of-construction-cost contracts are prohibited. Cost reimbursement, fixed price, or per diem contracts or combinations of these may be negotiated for architectural or engineering services. A fixed price contract is generally used only when the scope and extent of work to be performed is clearly defined. In most other cases, a cost reimbursement type of contract is more appropriate. A per diem contract may be used if no other type of contract is appropriate. An incentive fee may be used if the municipality submits an adequate independent cost estimate and price comparison.

(B) Cost Reimbursement Contract. Each cost reimbursement contract shall clearly establish a cost ceiling which the engineer may not exceed without formally amending the

contract and a fixed dollar profit which may not be increased except in the case of a contract amendment to increase the scope of work.

(C) Fixed Price Contract. An acceptable fixed price contract is one which establishes a guaranteed maximum price which may not be increased unless a contract amendment increases the scope of work.

(D) Compensation Procedures. If, under either a cost reimbursement or fixed price contract, the municipality desires to use a multiplier type of compensation, all of the following must apply:

(i) the multiplier and the portions of the multiplier allocable to overhead and allocable to profit have been specifically negotiated;

(ii) the portion of the multiplier allocable to overhead includes only allowable items of cost under the cost principles;

(iii) the portions of the multiplier allocable to profit and allocable to overhead have been separately identified in the contract; and

(iv) the fixed price contract includes a guaranteed maximum price for completion of the specifically defined scope of work; and the cost reimbursement contract includes a fixed dollar profit which may not be increased except in the case of a contract amendment which increases the scope of work.

(E) Per Diem Contracts. A per diem agreement may be utilized only after a determination that a fixed price or cost reimbursement type contract is not appropriate. Per diem agreements should be used only to a limited extent, e.g., where the first task under the planning agreement involves establishing the scope and cost of succeeding planning tasks or for incidental services such as expert testimony or intermittent professional or testing services. (Resident engineer and resident inspection services should generally be compensated at cost plus fixed fee). Cost and profit included in the per diem rate must be specifically negotiated and displayed separately in the engineer's proposal.

The contract must clearly establish a price ceiling which may not be exceeded without formally amending the contract.

(2) Public Notice. Adequate public notice must be given of the requirement for architectural or engineering services for all subagreements.

(A) Public Announcement. A notice of request for qualifications should be published in professional journals, newspapers, or publications of general circulation over a reasonable area and, in addition, if desired, through posted public notices or written notification directed to interested persons, firms, or professional organizations inviting the submission of statements of qualifications. The announcement must clearly state the deadline and place for submission of qualification statements.

(B) Exceptions. Public notice is not required under the following circumstances:

(i) for design or construction phases of a grant funded project if the municipality is satisfied with the qualifications and performance of any engineer who performed all or any part of the planning or design work and the engineer has the capacity to perform the subsequent steps; and

(ii) the municipality desires the same engineer to provide architectural or engineering services for the subsequent steps or for subsequent segments of design work in one project, if a single pollution abatement facility is segmented into two or more construction projects.

If the design work is accordingly segmented so that the initial contract for preparation of construction drawings and specifications does not cover the entire pollution abatement facility to be built under one grant then the municipality may use the same engineering firm that was selected for the initial segment of design work for subsequent segments.

(3) Evaluation of Qualifications.

(A) The municipality shall review the qualifications of firms which responded to the announcement or were on the prequalified list and shall uniformly evaluate the firms.

(B) Qualifications shall be evaluated through an objective process (e.g., the appointment of a board or committee which, to the extent practicable, should include persons with technical skills).

(C) Criteria which should be considered in the evaluation of candidates for submission of proposals should include:

(i) specialized experience and technical competence of the candidate or firm and its personnel (including a joint venture, association or professional subcontractor) considering the type of services required and the complexity of the project;

(ii) past record of performance on contracts with the municipality, other government agencies or public bodies, and with private industry, including such factors as control of costs, quality of work, and ability to meet schedules;

(iii) the candidate's capacity to perform the work (including any specialized services) within the time limitations, considering the firm's current and planned workload;

(iv) the candidate's familiarity with the types of problems applicable to the project; and

(v) avoidance of personal and organizational conflicts of interest.

(4) Solicitation and Evaluation of Proposals.

(A) Solicitation of Professional Services Proposals.

(i) Requests for professional services proposals shall be sent to no fewer than three candidates who either responded to the public announcement or were selected from the prequalified list, unless, after good faith effort to solicit qualifications, fewer than three qualified candidates respond, in which case all qualified candidates shall be provided requests for proposals.

(ii) Requests for professional services proposals shall be in writing and must contain the information necessary to enable a prospective offeror to prepare a proposal properly. The request for proposals shall include a solicitation statement and shall inform offerors of the evaluation criteria.

(iii) Submission deadline. Requests for proposals shall clearly state the deadline and place for submission.

(B) Evaluation of Proposals.

(i) All proposals submitted in response to the request for professional services proposals shall be uniformly evaluated. The municipality shall also evaluate the candidates' proposed method of accomplishing the work required.

(ii) Proposals shall be evaluated through an objective process (e.g., the appointment of a board or committee) which, to the extent practicable, should include persons with technical skills. Oral (including telephone) or written interviews should be conducted with top rated proposers and information derived therefrom shall be treated on a confidential basis.

(iii) Municipalities shall base their determinations of qualified offerors and acceptable

proposals solely on the evaluation criteria stated in the request for proposals.

(5) Negotiation.

(A) Municipalities are responsible for negotiation of their contracts for architectural or engineering services. Contract procurement, including negotiation, may be performed by the municipality directly or by another person or firm retained for that purpose. Contract negotiations may include the services of technical, legal, audit, or other specialists to the extent appropriate.

(B) Negotiations may be conducted in accordance with state or local requirements, as long as they meet the minimum requirements as set forth in this subdivision.

(C) The object of negotiations with any candidate shall be to reach agreement on the provisions of the proposed contract. The municipality and the candidate shall discuss, at a minimum:

- (i) the scope and extent of work and other essential requirements;
- (ii) identification of the personnel and facilities necessary to accomplish the work within the required time including, where needed, employment of additional personnel, subcontracting, joint venture, etc;
- (iii) provisions of the required technical services in accordance with regulations and criteria established for the project; and
- (iv) a fair and reasonable price for the required work, to be determined in accordance with the cost and profit considerations.

(6) Cost and Price Considerations.

(A) The candidate(s) selected for negotiation shall submit to the municipality for review sufficient cost and pricing data to enable the municipality to ascertain the necessity and reasonableness of costs and amounts proposed and the allowability and eligibility of costs proposed.

(B) The municipality shall submit the following to the Commissioner for review:

- (i) documentation of the public notice of need for architectural or engineering services and selection procedures;
- (ii) the cost and pricing data the selected engineer submitted;
- (iii) a certification of review and acceptance of the selected engineer's cost and price; and
- (iv) a copy of the proposed subagreement.

(C) The Commissioner shall review the complete subagreement procurement procedure and approve the municipality's compliance with appropriate procedures before the municipality awards the subagreement.

(D) Cost Review.

- (i) The municipality shall review proposed subagreement costs.
- (ii) At a minimum, proposed subagreement costs shall be presented on EPA form 5700-41 on which the selected engineer shall certify that the proposed costs reflect complete, current, and accurate cost and pricing data applicable to the date of anticipated subagreement award.
- (iii) In addition to the specific elements of cost, the estimated amount of profit shall be set forth separately in the cost summary for fixed price contracts and a maximum total dollar amount of profit shall be set forth separately in the cost summary for cost reimbursement

contracts.

(iv) The municipality may require more detailed cost data than the form requires in order to substantiate the reasonableness of proposed subagreement costs. The Commissioner may require more detailed documentation only when the selected engineer is unable to certify that the cost and pricing data used are complete, current, and accurate. The Commissioner may, on a selected basis, perform a pre-award cost analysis on any subagreement. A provisional overhead rate should be agreed upon before contract award.

(v) The engineer shall have an accounting system which accounts for costs in accordance with generally accepted accounting principles. This system shall provide for the identification, accumulation, and segregation of allowable and unallowable project costs among projects. Allowable project costs shall be determined by the Commissioner. The engineer shall propose and account for costs in a manner consistent with his normal accounting procedures.

(vi) Subagreements awarded on the basis of a review of a cost element summary and a certification of complete, current, and accurate cost and pricing data shall be subject to downward renegotiation or recoupment of funds where the Commissioner determines that such certification was not based on complete, current, and accurate cost and pricing data or was not based on allowable costs at the time of award.

(7) Profit. The objective of negotiations shall be the exercise of sound judgment and good administrative practice including the determination of a fair and reasonable profit based on the firm's assumption of risk and input to total performance and not merely the application of a predetermined percentage factor. For the purpose of subagreements under state grants, profit is defined as the net proceeds obtained by deducting all allowable costs (direct and indirect) from the price. (This definition of profit may vary from the firm's definition of profit for other purposes.) Profit on a subagreement and each amendment to a subagreement under a grant should be sufficient to attract engineers who possess the talent and skills necessary for the accomplishment of project objectives and to stimulate efficient and expeditious completion of the project. Where cost review is performed, the municipality should review the estimate of profit as it reviews all other elements of price.

(8) Award of Subagreement.

(A) The municipality shall obtain the written approval of the Commissioner prior to the award of any subagreement or amendment.

(B) The municipality shall promptly notify unsuccessful candidates.

(9) Required Solicitation and Subagreement Provisions.

(A) Required solicitation statement. Requests for qualifications or proposals must include the following statement, as well as the proposed terms of the subagreement.

Any contract awarded under this request for qualifications or professional proposals is expected to be funded in part by the State of Connecticut, Department of Environmental Protection. This procurement will be subject to requirements contained in subsections (h), (i) and (o) of this section. The State of Connecticut will not be a party to this request for qualifications or professional proposals or any resulting contract.

(B) Content of subagreement. Each subagreement shall adequately define the scope and extent of project work; the time for performance and completion of the contract work including, where appropriate, dates for completion of significant project tasks; personnel

and facilities necessary to accomplish the work within the required time; the extent of subcontracting and consultant agreements; and payment provisions. If any of these elements cannot be defined adequately for later tasks or steps at the time of contract execution, the contract should not include the subsequent tasks or steps at that time.

(10) Subagreement Payments. The municipality shall make payment to the engineer in accordance with the payment schedule incorporated in the engineering agreement. Any retainage is at the option of the municipality. No payment request made by the engineer under the agreement may exceed the estimated amount and value of the work and services performed.

(11) Subcontracts under Subagreements. Neither award and execution of subcontracts under a prime contract for architectural or engineering services nor the procurement and negotiation procedures used by the engineer in awarding such subcontracts are required to comply with any of the provisions, selection procedures, policies or principles set forth herein.

(j) **Construction Contract Procurement Requirements.** (This section applies to construction contracts in excess of \$10,000 awarded by municipalities for any construction projects.)

(1) Type of Contract. Each contract shall be a fixed price (lump sum or unit price or a combination of the two) contract, unless the Commissioner gives advance written approval for the municipality to use some other acceptable type of contract. The cost-plus-percentage-of-cost contract shall not be used in any event.

(2) Formal Advertising. Each contract shall be awarded after formal advertising, unless negotiations are permitted in accordance with subdivision (18) of subsection (h) of this section. Formal advertising shall be in accordance with the following:

(A) Adequate Public Notice. The municipality will cause adequate notice to be given of the solicitation by publication in newspapers or journals of general circulation beyond the municipality's locality (statewide, generally), inviting bids on the project work and stating the method by which bidding documents may be obtained or examined. Where the estimated cost of construction is 10 million dollars or more, the municipality shall publish the notice in trade journals of nationwide distribution. The municipality may solicit bids directly from bidders if it maintains a bidders list.

(B) Adequate Time for Preparing Bids. Adequate time, generally not less than 30 days, shall be allowed between the date when public notice is first published and the date by which bids must be submitted. Bidding documents including specifications and drawings shall be available to prospective bidders from the date when such notice is first published.

(C) Adequate Bidding Documents. The municipality shall prepare a reasonable number of bidding documents, invitations for bids and shall furnish them upon request on a first-come, first-serve basis. The municipality shall maintain a complete set of bidding documents and shall make them available for inspection and copying by any party. The bidding documents shall include:

- (i) a complete statement of the work to be performed, including necessary drawings and specifications, and the required completion schedule;
- (ii) the terms and conditions of the contract to be awarded;
- (iii) a clear explanation of the method of bidding, the method of evaluation of bid prices,

and the basis and method for award of the contract;

- (iv) responsibility requirements or criteria which will be employed in evaluating bidders;
- (v) the following statement:

Any contract or contracts awarded under this invitation for bids are expected to be funded in part by the State of Connecticut, Department of Environmental Protection. Neither the State of Connecticut nor any of its departments, agencies or employees is or will be a party to this invitation for bids or any resulting contract. This procurement will be subject to the requirements contained in subsections (h), (j) and (o) of this section;

- (vi) a copy of subsections (h), (j) and (o) of this section; and
- (vii) the prevailing State Wage Determination, as applicable.

(D) Sealed Bids. The municipality shall provide for bidding by sealed bid and for the safeguarding of bids received until public opening.

(E) Addenda to Bidding Documents. If a municipality desires to amend any part of the bidding documents (including drawings and specifications) during the period when bids are being prepared, the addenda shall be communicated in writing to all firms which have obtained bidding documents at least five (5) working days prior to the bid opening.

(F) Bid Modifications. A firm which has submitted a bid shall be allowed to modify or withdraw its bid before the time of bid opening.

(G) Public Opening of Bids. The municipality shall provide for a public opening of bids at the place, date and time announced in the bidding documents.

(H) Award to the Low, Responsive, Responsible Bidder.

(i) After bids are opened, the municipality shall evaluate them in accordance with the methods and criteria set forth in the bidding documents.

(ii) The municipality may reserve the right to reject all bids. Unless all bids are rejected for good cause, award shall be made to the low, responsive, responsible bidder.

(iii) If the municipality intends to make the award to a firm which did not submit the lowest bid, it shall prepare a written statement before any award, explaining why each lower bidder was deemed nonresponsible or nonresponsive. The municipality shall retain such statement in its files and forward a copy to the Commissioner for review.

(iv) Local laws, ordinances, regulations or procedures which are designed or which operate to give local bidders preference over other bidders shall not be employed in evaluating bids.

(v) If an unresolved procurement review issue or a protest relates only to award of a subcontract or procurement of an item under the prime contract and resolution of that issue or protest is unduly delaying performance of the prime contract, the Commissioner may authorize award and performance of the prime contract before resolution of the issue or protest, if the Commissioner determines that resolution of the protest will not affect the placement of the prime contract bidders and will not materially affect initial performance of the prime contract; and that award of the prime contract is in the state's best interest, will not materially affect the resolution of the protest, and is not barred by state or local law.

(vi) The municipality shall not reject a bid as nonresponsive for failure to list or otherwise indicate the selection of a subcontractor(s) or equipment, unless the municipality has unambiguously stated in the solicitation documents that such failure to list shall render a bid nonresponsive and shall cause rejection of a bid.

(k) Negotiation of Contract Amendments (Change Orders).

(1) The municipality is responsible for the negotiation of construction contract change orders. This function may be performed by the municipality directly or, if authorized, by its engineer. During negotiations with the contractor the municipality shall:

(A) make certain that the contractor has a clear understanding of the scope and extent of work and other essential requirements;

(B) assure that the contractor demonstrates that he will make available or will obtain the necessary personnel, equipment and materials to accomplish the work within the required time; and

(C) assure a fair and reasonable price for the required work.

(2) The contract price or time may be changed only by a change order. When negotiations are required, they shall be conducted in accordance with subdivisions (3) and (4) of this subsection as appropriate. The value of any work covered by a change order, or of any claim for increase or decrease in the contract price, shall be determined by the method set forth in subparagraphs (A) to (C) of this subdivision, whichever is most advantageous to the municipality.

(A) Unit prices.

(i) Original bid items. Unit prices previously approved are acceptable for pricing changes of original bid items. However, when changes in quantities exceed 15 percent of the original bid quantity and the total dollar change of that bid item is significant, the municipality shall review the unit price to determine if a new unit price should be negotiated.

(ii) New items. Unit prices of new items shall be negotiated.

(B) Lump Sums shall be negotiated.

(C) Cost reimbursement. The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus an amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

(3) For each change order not in excess of \$100,000 the contractor shall submit sufficient cost and pricing data to the municipality to enable the municipality to determine the necessity and reasonableness of costs and amounts proposed, and the allowability and eligibility of costs proposed.

(4) For each change order in excess of \$100,000, the contractor shall submit to the municipality for review sufficient cost and pricing data as described in subparagraphs (A) to (E) of this subdivision to enable the municipality to ascertain the necessity and reasonableness of costs and amounts proposed, and the allowability and eligibility of costs proposed.

(A) The contractor shall certify that proposed costs reflect complete, current, and accurate cost and pricing data applicable to the date of the change order.

(B) In addition to the specific elements of cost, the estimated amount of profit shall be set forth separately in the cost summary for fixed price change orders and a specific total dollar amount of profit will be set forth separately in the cost summary for cost reimbursement change orders.

(C) The municipality may require more detailed cost data in order to substantiate the reasonableness of proposed change order costs. The Commissioner may, on a selected basis, perform a detailed cost analysis on any change order.

(D) For costs under cost reimbursement change orders, the contractor shall have an accounting system which accounts for such costs in accordance with generally accepted accounting principles. This system shall provide for the identification, accumulation and segregation of allowable and unallowable change orders. Allowable change order costs shall be determined in accordance with subsections (a), (b), (c), (d) and (e) of this section. The contractor shall propose and account for such costs in a manner consistent with his normal accounting procedures.

(E) Change orders awarded on the basis of review of a cost element summary and a certification of complete, current, and accurate cost and pricing data shall be subject to downward renegotiation and recoument of funds where a subsequent audit substantiates that such certification was not based on complete, current and accurate cost and pricing data.

(5) Review by Commissioner. The municipality shall submit, before the execution of any change order in excess of \$100,000, to the Commissioner for review and approval:

- (A) the cost and pricing data the contractor submitted;
- (B) a certification of review and acceptance of the contractor's cost or price; and
- (C) a copy of the proposed change order.

(6) Profit. The objective of negotiations shall be the exercise of sound business judgment and good administrative practice, including the determination of a fair and reasonable profit based on the contractor's assumption of risk and input to total performance, and not merely the application of a predetermined percentage factor. For the purpose of negotiated change orders to construction contracts profit is defined as the net proceeds obtained by deducting all allowable costs (direct and indirect) from the price. The municipality should review the estimate of profit as it reviews all other elements of price.

(7) Related Work. Related work shall not be split into two amendments or change orders merely to keep it under \$100,000 and thereby avoid the requirements of subdivision (4) of this subsection. For change orders which include both additive and deductive items:

(A) if any single item (additive or deductive) exceeds \$100,000 the requirements of subdivision (4) of this subsection shall be applicable;

(B) if no single additive or deductive item has a value of \$100,000 but the total price of the change order is over \$100,000, the requirements of subdivision (4) of this subsection shall be applicable; and

(C) if the total of additive items of work in the change order exceeds \$100,000, or the total of deductive items of work in the change order exceeds \$100,000, and the net price of the change order is less than \$100,000, the requirements of subdivision (4) of this subsection shall be applicable.

(I) Subcontracts under Construction Contracts.

(1) The award or execution of subcontracts by a prime contractor under a construction contract awarded to the prime contractor by the municipality and the procurement and negotiation procedures used by prime contractors in awarding or executing subcontracts are not required to comply with any of the provisions, selection procedures, policies or principles set forth in subsection (h) or (j) of this section, except those specifically stated in this section. In addition, the bid protest procedures in subsection (o) of this section are not available to parties executing subcontracts with prime contractors, except as specifically

provided in subsection (o) of this section.

(2) The award or execution of subcontracts by a prime contractor under a formally advertised, competitively bid, fixed price construction contract awarded to the prime contractor by the municipality, and the procurement and negotiation procedures used by such prime contractors in awarding or executing such subcontracts shall comply with any municipality procurement system, state, small, minority and women's business policy (section 22a-482-4 (h) (9)), negotiation of contract amendments (section 22a-482-4 (k)), and subdivisions (8) and (9) of section 22a-482-4 (g).

(m) Progress Payments to Contractors.

(1) Except as state law otherwise provides, municipalities shall make prompt progress payments to prime contractors and prime contractors should make prompt progress payments to subcontractors and suppliers for eligible construction, material, and equipment costs, including those of undelivered, specifically manufactured equipment, incurred under a contract under this program. The Clean Water Fund shall only be obligated to pay the municipality amounts that the municipality is actually going to pay contractors.

(2) Conditions of Progress Payments. For purposes of this subsection, progress payments are defined as follows:

(A) payments for work in place; or

(B) payments for materials or equipment which have been delivered to the construction site, or which are stockpiled in the vicinity of the construction site, in accordance with the terms of the contract, when conditional or final acceptance is made by or for the municipality. The municipality shall assure that items for which progress payments have been made are adequately insured and are protected through appropriate security measures. Costs of such insurance and security are allowable costs; or

(C) payments for undelivered, specifically manufactured items or equipment (excluding off-the-shelf or catalog items) as work on them progresses. Such payments shall be made if provisions therefor are included in the bid and contract documents. Such provisions may be included at the option of the municipality only when all of the following conditions exist:

(i) the equipment is so designated in the project specifications;

(ii) the equipment to be specifically manufactured for the project could not be readily utilized on, nor diverted to, another job; and

(iii) a fabrication period of more than 6 months is anticipated.

(3) Protection of Progress Payments Made for Specifically Manufactured Equipment. The municipality shall assure protection of the state's interest in progress payments made for items or equipment referred to in subparagraph (2) (C) of this subsection. The protection shall be acceptable to the municipality and shall take the form of:

(A) securities negotiable without recourse, condition or restrictions, a progress payment bond, or an irrevocable letter of credit provided to the municipality through the prime contractor by the subcontractor or supplier; and

(B) for items or equipment in excess of \$200,000 in value which are manufactured in a jurisdiction in which the Uniform Commercial Code is applicable, the creation and perfection of a security interest under the Uniform Commercial Code which is reasonably adequate to protect the interests of the municipality.

(4) Limitations on Progress Payments for Specifically Manufactured Equipment.

(A) Progress payments made for specifically manufactured equipment or items shall be limited to the following:

(i) a first payment upon submission by the prime contractor of shop drawings for the equipment or items in an amount not exceeding 15 percent of the contract or item price plus appropriate and allowable higher tier costs; and

(ii) subsequent to the municipality's release or approval for manufacture, additional payments not more frequently than monthly thereafter up to 75 percent of the contract or item price plus appropriate and allowable higher tier costs. However, payment may also be made in accordance with the contract and grant terms and conditions for ancillary onsite work before delivery of the specifically manufactured equipment or items.

(B) In no case may progress payments for undelivered equipment or items under subparagraphs (A) (i) or (A) (ii) of this subdivision be made in an amount greater than 75 percent of the cumulative incurred costs allocable to contract performance with respect to the equipment or items. Submission of a request for any such progress payments shall be accompanied by a certification furnished by the fabricator of the equipment or item that the amount of progress payment claimed constitutes not more than 75 percent of cumulative incurred costs allocable to contract performance and, in addition, in the case of the first progress payment request, a certification that the amount claimed does not exceed 15 percent of the contract or item price quoted by the fabricator.

(C) As used in this subsection, the term "costs allocable to contract performance" with respect to undelivered equipment or items includes all expenses of contract performance which are reasonable, allocable to the contract, consistent with sound and generally accepted accounting principles and practices consistently applied and which are not excluded by the contract.

(5) Enforcement. A subcontractor or supplier which is determined by the Commissioner to have frustrated the intent of the provisions regarding progress payments for major equipment or specifically manufactured equipment through intentional forfeiture of its bond or failure to deliver the equipment may be determined nonresponsible and ineligible for further work under state funded projects.

(6) Contract Provisions. Where applicable, appropriate provisions regarding progress payments shall be included in each contract and subcontract.

(7) Implementation. The foregoing progress payments policy should be implemented in invitations for bids for projects funded by the Clean Water Fund. If provision for progress payments is made after contract award, it shall be for consideration that the municipality deems adequate.

(n) **Retention from Progress Payments.**

(1) The municipality may retain a portion of the amount otherwise due the contractor. The amount the municipality retains shall be limited to the following:

(A) withholding of not more than 5 percent of the payment claimed until work is 50 percent complete;

(B) when work is 50 percent complete, reduction of the withholding to 2 percent of the dollar value of all work satisfactorily completed to date, provided that the contractor is making satisfactory progress and there is no specific cause for greater withholding;

(C) when the work is substantially complete (operational or beneficial occupancy), the

withheld amount shall be further reduced below 2 percent to only that amount necessary to assure completion;

(D) the municipality may reinstate up to 5 percent withholding if the municipality determines, at its discretion, that the contractor is not making satisfactory progress or there is other specific cause for such withholding; and

(E) the municipality may accept securities, negotiable without recourse, condition or restrictions, a release of retainage bond, or an irrevocable letter of credit provided by the contractor instead of all or part of the cash retainage.

(2) The requirements set out in subdivision (1) of this subsection shall be implemented with respect to all construction projects. Appropriate provision to assure compliance with these requirements shall be included in the bid documents for such projects initially or by addendum before the bid submission date and as a special condition in the funding agreement or in an amendment which is issued by the Commissioner.

(3) A municipality which delays disbursement to contractors of funds will be required to credit to the Clean Water Fund all interest earned on those funds and will be responsible for any and all tax law violations which occur as a result of their actions.

(o) **Protests.**

(1) General. A protest based upon an alleged violation of the procurement requirements may be filed against a municipality's procurement action by a party with an adversely affected direct financial interest. Any such protest must be received by the municipality within the time period in subparagraph (2) (A) of this subsection. The municipality is responsible for resolution of the protest before taking the protested action, in accordance with subdivision (4) of this subsection, except as otherwise provided by subdivision (9) of this subsection or subparagraph (j) (2) (H) (v).

(2) Time Limitations.

(A) A protest under subdivision (4) of this subsection should be made as early as possible during the procurement process to avoid disruption of, or unnecessary delay to, the procurement process. A protest authorized by subdivision (4) of this subsection shall be received by the municipality within one week after the basis for the protest is known or should have been known, whichever is earlier.

(i) In the case of an alleged violation of the specification requirements of subdivision (h) (12) of this section (e.g., that a product fails to qualify as an "or equal"), a protest need not be filed prior to the opening of bids. The municipality may resolve the issue before receipt of bids or proposals through a written or other formal determination, after notice and opportunity to comment is afforded to any party with a direct financial interest.

(ii) When an alleged violation of the specification requirements of subdivision (h) (12) of this section first arises subsequent to the receipt of bids or proposals, the municipality shall make a determination on the protest, if the protest was received by the municipality within one week of the time that the municipality's written or other formal notice is first received.

(B) A protest authorized under this subsection shall be filed in a court of competent jurisdiction within the locality of the municipality within one week after the complainant has received the municipality's determination.

(C) If a protest is mailed, the complaining party bears the risk of nondelivery within the

required time period. All documents transmitted in accordance with this section shall be mailed (by certified mail return receipt requested) or otherwise delivered in a manner which will objectively establish the date of receipt. Initiation of protest actions under subdivisions (4) or (5) of this subsection may be made by brief telegraphic notice accompanied by prompt mailing or other delivery of a more detailed statement of the basis for the protest. Telephone protests will not be considered.

(3) Other Initial Requirements.

(A) The initial protest document shall briefly state the basis for the protest and should:

(i) refer to the specific portions of sections 22a-482-1 to 22a-482-4 which allegedly prohibit the procurement action;

(ii) specifically request a determination pursuant to this section;

(iii) identify the specific procurement document(s) or portion(s) of them in issue; and

(iv) include the name, telephone number, and address of the person representing the protesting party.

(B) The party filing the protest shall concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the determination of the protest (all bidders or proposers who appear to have a substantial and reasonable prospect of receiving an award if the protest is denied or sustained) and to the Commissioner.

(4) Municipality Determination.

(A) The municipality is responsible for the initial resolution of protests based upon alleged violations of the procurement requirements.

(B) When the municipality receives a timely written protest, it must defer the protested procurement action in accordance with subdivision (7) of this subsection; and:

(i) afford the complaining party and interested parties an opportunity to present arguments in support of their views in writing or at a conference or other suitable meeting (such as a city council meeting);

(ii) inform the complainant and other interested parties of the procedures which the municipality will observe for resolution of the protest;

(iii) obtain an appropriate extension of the period for acceptance of the bid and bid bond(s) of each interested party, where applicable (failure to agree to a suitable extension of such bid and bid bond(s) by the party which initiated the protest shall be cause for summary dismissal of the protest by the municipality or the Commissioner); and

(iv) promptly deliver (by certified mail, return receipt requested, or by personal delivery) its written determination of the protest to the complaining party and to each other participating party.

(C) The municipality's determination shall be accompanied by a legal opinion addressing issues arising under state or local law, if any and, when construction is involved, by an engineering report, if appropriate.

(D) The municipality should decide the protest as promptly as possible, generally within 3 weeks after receipt of a protest, unless extenuating circumstances require a longer period of time for proper resolution of the protest.

(5) Procedures.

(A) Where resolution of an issue properly raised with respect to a procurement

requirement necessitates prior or collateral resolution of a legal issue arising under state or local law and such law is not clearly established in published legal decisions of the state or other relevant jurisdiction, the municipality may rely upon:

- (i) an opinion of the municipality's legal counsel adequately addressing the issue; or
- (ii) the established or consistent practice of the municipality, to the extent appropriate;

or

- (iii) the law of other local jurisdictions as established in published legal decisions; or
- (iv) if none of the foregoing adequately resolve the issue, published decisions of the Comptroller General of the United States (U.S. General Accounting Office) or of the federal or state courts addressing federal or state requirements comparable to procurement requirements of this section.

(B) A party who submits a document subsequent to initiation of a protest proceeding shall simultaneously furnish each of the other parties with a copy of such document.

(C) The procedures established herein are not intended to preclude informal resolution or voluntary withdrawal of protests. A complainant may withdraw its appeal at any time and the protest proceedings shall thereupon be terminated.

(D) A protest may be dismissed for failure to comply with procedural requirements set forth in this section.

(6) Burden of Proof.

(A) In protest proceedings, if the municipality proposes to award a formally advertised, competitively bid, fixed price contract to a party who has submitted the apparent lowest price, the party initiating the protest will bear the burden of proof.

(B) In protest proceedings:

- (i) if the municipality proposes to award a formally advertised, competitively bid, fixed price contract to a bidder other than the bidder which submitted the apparent lowest price, the municipality shall bear the burden of proving that its determination concerning responsiveness is in accordance with Section 22a-482-1 to 22a-482-4; and

- (ii) if the basis for the municipality's determination is a finding of nonresponsibility, the municipality shall establish and substantiate the basis for its determination and shall adequately establish that such determination has been made in good faith.

(7) Deferral of Procurement Action. Upon receipt of a protest, the municipality shall defer the protested procurement action (for example, defer the issuance of solicitations, contract award, or issuance of notice to proceed under a contract) until ten days after delivery of its determination to the participating parties. The municipality may receive or open bids at its own risk, if it considers this to be in its best interest. When the Commissioner has received a written protest, he or she shall notify the municipality promptly to defer its protested procurement action until notified of the formal or informal resolution of the protest.

(8) Enforcement. Noncompliance with the procurement provisions by the municipality shall be cause for enforcement action in accordance with one or more of the provisions of subdivision (h) (23) of this section.

(9) Limitation. A protest may not be filed with respect to the following:

- (A) issues not arising under the procurement provisions; or
- (B) issues relating to the selection of a consulting engineer, provided that a protest may

be filed only with respect to the mandatory procedural requirements of subsection (i) of this section; or

(C) issues primarily determined by local law or ordinance and as to which the Commissioner, upon review, determines that there is no contravening state requirement and that the municipality's action has a rational basis; or

(D) provisions of state regulations applicable to direct state contracts unless such provisions are explicitly referred to or incorporated in section 22a-482; or

(E) basic project design determinations; or

(F) award of subcontracts or issuance of purchase orders under formally advertised, competitively bid, lump sum construction contracts. However, protests may be made to alleged violations of the following:

(i) specification requirements of subdivision (h) (12) of this section; or

(ii) provisions applicable to the procurement procedures, negotiation or award of subcontracts or issuance of purchase orders under subsection (1) of this section.

(p) **Funding Assistance Conditions.** Financing for pollution abatement facilities shall be subject to the following conditions:

(1) Municipality Responsibilities.

(A) Review or approval of engineering reports, plans and specifications or other documents by the Commissioner is for administrative purposes only and does not relieve the municipality of its responsibility to properly plan, design, build and effectively operate and maintain the pollution abatement facilities described in the funding assistance agreement as required under law, regulations, permits, and good management practices. The Commissioner is not responsible for increased building costs resulting from defects in the plans, design drawings and specifications or other subagreement documents.

(B) By its acceptance of financing, the municipality agrees to complete the pollution abatement facilities in accordance with the engineering report, plans and specifications and related documents approved by the Commissioner and to maintain and operate the pollution abatement facilities to meet the enforceable requirements of the permit issued pursuant to section 22a-430 of the Connecticut General Statutes for the design life of the pollution abatement facilities. The Commissioner may seek specific enforcement or recovery of funds from the municipality, or take other appropriate action if he or she determines that the municipality has failed to make good faith efforts to meet its obligations under the grant/loan agreement.

(C) The municipality agrees to pay the non-state costs of the pollution abatement facilities construction associated with the project and commits itself to complete the construction of the operable pollution abatement facilities and the complete pollution abatement facilities of which the project is a part.

(2) Nondiscrimination. All contracts are subject to the Governor's Executive Order No. Three and to the guidelines and rules issued by the State Labor Commission to implement Executive Order No. Three.

(3) Wage Rates. Contracts involving construction work are subject to the appropriate state wage rates issued by the State Labor Commissioner and federal wage rates issued by the United States Department of Labor.

(4) Access. The municipality shall insure that the Commissioner and his or her duly

authorized agents shall have access to the project work whenever it is in preparation or progress. The municipality shall provide proper facilities for access and inspection. The municipality shall allow any authorized agent of the state to have access to any books, documents, plans, reports, papers, and other records of the contractor which are pertinent to the project for the purpose of making audit, examination, excerpts, copies and transcriptions. The municipality shall insure that a party to a subagreement shall provide access to the project work, sites, documents, and records.

(5) Project Changes.

(A) Minor changes in the project work that are consistent with the objectives of the project and within the scope of the funding agreement do not require the execution of a formal amendment before the municipality's implementation of the change. However, if such changes increase the costs of the project, the amount of the funding provided by the funding agreement may only be increased by a formal amendment.

(B) The municipality shall receive from the Commissioner a formal amendment before implementing changes which:

- (i) alter the project performance standards; or
- (ii) alter the type of treatment facilities provided by the project; or
- (iii) delay or accelerate the project schedule; or
- (iv) substantially alter the engineering report, design drawings and specifications, or the location, size, capacity, or quality of any major part of the project.

(6) Operation and Maintenance.

(A) The municipality shall make provisions satisfactory to the Commissioner for assuring economical and effective operation and maintenance of the pollution abatement facilities in accordance with a plan of operation approved by the Commissioner.

(B) The Commissioner shall not pay more than 50 percent of the grant share of any project unless the municipality has an approved final plan of operation and shall not pay more than 90 percent of the grant share of any project unless the municipality has an approved operation and maintenance manual.

(7) Adoption of User Charge System and Sewer Use Ordinance.

The municipality shall adopt the sewer use ordinance and implement the user charge system developed under subsections (e) and (f) of 22a-482-3 and approved by the Commissioner before the pollution abatement facilities are placed in operation. Further, the municipality shall implement the user charge system and sewer use ordinance for the useful life of the pollution abatement facilities.

(8) Value Engineering.

The municipality shall comply with the applicable requirements of section 22a-482-3 (d) for value engineering.

(9) Project Initiation and Completion.

(A) The municipality shall expeditiously initiate and complete the project in accordance with the project schedule contained in the funding agreement.

(B) The municipality shall initiate procurement action for building the project promptly after the award of financing. The Commissioner may annul or terminate the funding agreement if the municipality has not awarded the subagreements and issued a notice to proceed, where one is required, for building all significant elements of the project within

twelve (12) months of the closing. Failure to promptly award all subagreement(s) for building the project shall result in a limitation on allowable grant costs.

(10) **Municipality Responsibility for Project Performance.**

(A) The municipality shall select the engineer or engineering firm principally responsible for either supervising construction or providing architectural and engineering services during construction as the prime engineer to provide the following services during the first year following the initiation of operation:

(i) direct the operation of the project and revise the operation and maintenance manual for the project as necessary to accommodate actual operating experience;

(ii) train or provide for training of operating personnel, including the preparation of curricula and training material for operating personnel; and

(iii) advise the municipality whether the project is capable of meeting the project performance standards.

(B) On the date one year after the initiation of operation of the project the municipality shall certify to the Commissioner whether the project is capable of meeting the project performance standards. If the project does not meet the project performance standards, the municipality shall submit the following:

(i) a corrective action report which includes an analysis of the cause of the project's inability to meet the performance standards (including infiltration/inflow reduction) and estimates of the nature, scope and cost of the corrective action necessary to bring the project into compliance. Such corrective action report shall be prepared at other than state expense;

(ii) the schedule for undertaking, in a timely manner, the corrective action necessary to bring the project into compliance; and

(iii) the scheduled date for certifying to the Commissioner that the project is capable of meeting the project performance standards.

(C) Corrective action necessary to bring a project into compliance with the project performance standards shall be undertaken by the municipality at other than state expense.

(D) Nothing in this section shall be construed to prohibit a municipality from requiring more assurances, guarantees, or indemnity or other contractual requirements from any party performing project work.

(11) **Final Inspection.** The municipality shall notify the Commissioner of the completion of project construction and the Commissioner shall cause final inspection to be made within 60 days of receipt of the notice. When final inspection is completed and the Commissioner determines that the treatment works have been satisfactorily constructed, in accordance with the funding assistance agreement, the municipality may make a request for final payment under subdivision (s) (5) of this section.

(q) **Financial Assistance Agreement Amendments.**

(1) Agreements may be amended for project changes in accordance with this subsection. No agreement may be amended to increase the amount of assistance unless the funds are available for obligation. A formal amendment shall be effected only by a written amendment to the agreement.

(2) For financial assistance awarded under Sections 22a-482-1 to 22a-482-4, an amendment to increase the amount may be made for:

(A) change orders, claims and arbitration settlements; or

- (B) revised bid documents; or
- (C) project changes required by the Commissioner; or
- (D) increased costs on architectural/engineering agreements.

(r) **Enforcement.** If the Commissioner determines that the municipality has failed to comply with any provision of these regulations, he or she may impose any of the following:

(1) the grant portion of the financing may be withheld under subdivisions (t) (3) or (t) (4) of this section.

(2) grant project costs directly related to the noncompliance may be disallowed; or

(3) project work may be suspended; or

(4) a noncomplying municipality may be found nonresponsible or ineligible for future state assistance; or

(5) an injunction may be entered or other equitable relief afforded by a court of appropriate jurisdiction; or

(6) such other administrative or judicial action may be instituted as is legally available and appropriate.

(s) **Grant and Loan Payments.** The municipality shall be paid the allowable project costs incurred within the scope of an approved project and which are currently due and payable from the municipality (i.e. not including withheld or deferred amounts), up to the amount set forth in the agreement and any amendments thereto. Payments for engineering services shall be made in accordance with subsection (f) of this section and payments for construction contracts shall be made in accordance with subsections (m) and (n) of this section. All allowable costs incurred before initiation of construction of the project shall be claimed in the application for assistance for that project before the award of the assistance or no subsequent payment shall be made for the costs.

(1) Initial Request for Payment. Upon award of financial assistance, the municipality may request payment for the unpaid share of allowable project costs incurred before the award. Payment for such costs shall be made in accordance with the negotiated payment schedule included in the agreement.

(2) Interim Requests for Payment. The municipality may submit requests for payments for allowable costs in accordance with the negotiated payment schedule included in the agreement. Generally, payments shall be made within 13 days after receipt of a request for payment.

(3) Adjustment. At any time before final payment under the agreement, the Commissioner may cause any request(s) for payment to be reviewed or audited and make appropriate adjustment.

(4) Refunds, Rebates, Credits, etc. The state share of any refunds, rebates, credits or other amounts (including any interest) that accrue to or are received by the municipality for the project, and that are properly allocable to costs which the municipality has received funding assistance shall be credited to the current state allotment. Reasonable expenses incurred by the municipality for the purpose of securing such refunds, rebates, credits, or other amounts shall be allowable when approved by the Commissioner.

(5) Final Payment. After completion of final inspection under subdivision (p) (11) of this section, receipt and approval of the request for payment which the municipality designates as the "final payment request," and the municipality is deemed in compliance

with all applicable requirements of the funding agreement, the Commissioner shall pay to the municipality any balance of the share of allowable project costs which has not already been paid. The municipality must submit the final payment request within six (6) months of the scheduled completion.

(6) **Assignment and Release.** By its acceptance of final payment, the municipality agrees to assign to the state the state share of refunds, rebates, credits or other amounts, including any interest, properly allocable to costs for which the municipality has been paid by the state under the assistance agreement. The municipality thereby also releases and discharges the state, its officers, agents and employees from all liabilities, obligations, and claims arising out of the project work subject only to exceptions previously specified in writing between the Commissioner and the municipality.

(7) **Audit Upon Completion of the Project.** The municipality shall certify to the state that the project has been completed in accordance with the final plans and specifications approved by the Commissioner. The municipality shall within 90 days of such certification, prepare an audit of the project performed by an independent public accountant meeting the requirements of section 7-394a and 7-396a of the Connecticut General Statutes. Such audit shall be performed in accordance with generally accepted accounting principles and shall identify any expenditures made by the municipality not in conformance with the agreement. The municipality further agrees that the auditors of Public Accounts of the state shall have access to all records and accounts of the municipality concerning the project. To provide such access the municipality agrees that it shall preserve all its records and accounts concerning the project for a period of 3 years after the date such audit is delivered to the state.

(t) Administrative Changes.

(1) **Transfer of Agreements; Change of Name Agreements.** Transfer of an agreement and change of name agreements require the prior written approval of the Commissioner. The municipality may not approve any transfer of an agreement without the concurrence of the Commissioner. The Commissioner shall prepare the necessary transfer documents upon receipt of appropriate information and documents submitted by the municipality.

(2) **Suspension of Work (Stop Work Orders).** Work on a project or on a portion or phase of a project for which funding assistance has been awarded may be ordered stopped by the Commissioner.

(A) **Use of Stop-Work Orders.** Work stoppage may be required for good cause such as default by the municipality, failure to comply with the terms and conditions of the funding agreement, realignment of programs, lack of adequate funding, or advancements in the state of the art. Inasmuch as stop-work orders may result in increased costs to the state by reason of standby costs, such orders will be issued only after a review by the Commissioner. Generally, use of a stop-work order shall be limited to those situations where it is advisable to suspend work on the project or a portion or phase of the project for important program or agency considerations and a supplemental agreement providing for such suspension is not feasible. Although a stop-work order may be used pending a decision to terminate by mutual agreement or for other cause, it shall not be used in lieu of the issuance of a termination notice after a decision to terminate has been made.

(B) Contents of stop-work orders should be discussed with the municipality and should

be appropriately modified in light of such discussions. Stop-work orders should include a clear description of the work to be suspended, instructions as to the issuance of further orders by the municipality for materials or services, guidance as to action to be taken on subagreements, and other suggestions to the municipality for minimizing costs.

(C) Issuance of Stop-Work Order. After appropriate review of the proposed action has occurred, the Commissioner may, by written order to the municipality, require the municipality to stop all or any part of the project work for a period of not more than forty-five (45) days after the order is delivered to the municipality, and for any further period to which the parties may agree. The Commissioner shall prepare the necessary documents for the stop-work order. Any such order shall be specifically identified as a stop-work order issued pursuant to this subdivision.

(D) Effect of Stop-Work Order.

(i) Upon receipt of a stop-work order, the municipality shall forthwith comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within the suspension period or within any extension of that period to which the parties shall have agreed, the state shall either cancel the stop-work order, in full or in part, terminate the work covered by such order as provided in subdivision (t) (3) of this section or authorize resumption of work.

(ii) If a stop-work order is cancelled or the period of the order or any extension thereof expires, the municipality shall promptly resume the previously suspended work. An equitable adjustment shall be made in the grant period, the project period, the grant amount, the funding assistance amount, or all of these, and the funding assistance instrument shall be amended accordingly if the stop-work order results in an increase in the time required for, or an increase in the municipality's cost properly allocable to, the performance of any part of the project and the municipality asserts a written claim for such adjustment within sixty (60) days after the end of the period of work stoppage.

(iii) If a stop-work order is not cancelled and the grant-related project work covered by such order is within the scope of a subsequently-issued termination order, the reasonable cost resulting from the stop-work order shall be allowed in arriving at the termination settlement.

(iv) Costs incurred by the municipality, its contractors, subcontractors, or representatives, after a stop-work order is delivered, or within any extension of the stop-work period to which the parties shall have agreed, with respect to the project work suspended by such order or agreement which are not authorized by this section or specifically authorized in writing by the Commissioner, shall not be allowable costs.

(3) Termination of Funding Agreements. A funding agreement may be terminated in whole or in part by the Commissioner in circumstances where good cause can be demonstrated.

(A) Termination Agreement. The parties may enter into an agreement to terminate the funding agreement at any time pursuant to terms which are consistent with these regulations. The agreement shall establish the effective date of termination of the project, the basis for settlement of termination costs, the amount and date of payment of any sums due either party, and the schedule of repayment of all sums borrowed from the Clean Water Fund by the municipality. The Commissioner shall prepare the necessary termination documents.

(B) Project Termination by Municipality. A municipality may not unilaterally terminate the project work except for good cause. The municipality shall promptly give written notice to the Commissioner of any complete or partial termination of the project work by the municipality. If the Commissioner determines that there is good cause for the termination of all or any portion of a project, he or she may enter into a termination agreement or unilaterally terminate, effective with the date of cessation of the project work by the municipality. If the Commissioner determines that a municipality has ceased work on the project without good cause, he or she may unilaterally terminate or annual the agreement.

(C) Termination by Commissioner.

(i) Notice of Intent to Terminate. The Commissioner shall give not less than ten (10) days written notice to the municipality of intent to terminate a funding agreement in whole or in part.

(ii) Termination Action. The municipality shall be afforded an opportunity for consultation prior to any termination. After the Commissioner has been informed of any expressed views of the municipality and concurs in the proposed termination, the Commissioner may, in writing, terminate the agreement in whole or in part.

(iii) Basis for Termination. An agreement may be terminated by the Commissioner for good cause subject to negotiation and payment of appropriate termination settlement costs.

(D) Effect of Termination. Upon termination, the municipality shall refund or credit to the state any funds paid or owed to the municipality and allocable to the terminated project work, except such portion thereof as may be required to meet commitments which had become firm prior to the effective date of termination and are otherwise allowable. The municipality shall not make any new commitment without state approval. The municipality shall reduce the amount of outstanding commitments insofar as possible and report to the Commissioner the uncommitted balance of funds awarded under the funding agreement.

(4) Annulment of Agreement.

The Commissioner may annul the funding agreement if he or she determines that there has been no substantial performance of the project work without good cause, there is convincing evidence the funding assistance was obtained by fraud, or there is convincing evidence of gross abuse or corrupt practices in the administration of the project. In addition to such remedies as may be available to the state under state or local law, all funds previously paid to the municipality shall be returned or credited to the state and no further payments shall be made to the municipality.

(5) Deviations. The Commissioner is authorized to approve deviations from requirements of Sections 22a-482-1 to 22a-482-4, when he or she determines that such deviations are essential to effect necessary actions or where special circumstances make such deviations in the best interest of the state.

(A) Request for Deviation. A request for a deviation shall be submitted in writing to the Commissioner as far in advance as the exigencies of the situation will permit. Each request for a deviation shall contain at a minimum:

(i) the name of the municipality, the project identification number, and the dollar value, if appropriate;

(ii) identification of the section of Sections 22a-482-1 to 22a-482-4 from which a deviation is sought;

Regulations of Connecticut State Agencies

(iii) an adequate description of the deviation and the circumstances in which it shall be used, including all appropriate justification for the deviation request; and

(iv) a statement as to whether the same or a similiar deviation has been requested previously and, if so, circumstances of the previous request.

(B) Approval of Deviation. Deviations may be approved only by the Commissioner. A copy of each such written approval shall be retained in the official state project file.

(Effective March 5, 1992)

Executive Order 3



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STATE OF CONNECTICUT

BY HIS EXCELLENCY

THOMAS J. MESKILL

GOVERNOR

EXECUTIVE ORDER NO. THREE

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

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

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

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

I

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

II

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

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

III

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

IV

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

V

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

VI

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

in accordance with the procedures established by the labor commissioner and the investigating agency shall report to the labor commissioner any action taken or recommended.

VII

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

VIII

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

IX

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

X

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

- (1) Publish or cause to be published the names of contractors or labor organizations or employment agencies as hereinabove described which it has concluded have complied or failed to comply with the provisions of this Order or the regulations of the labor commissioner in implementing this Order.

- (2) Recommend to the commission on human rights and opportunities that in cases in which there is substantial or material violation or threat thereof of the contractual provision or related state statutes concerned herein,

appropriate proceedings be brought to enforce them, including proceedings by the commission on its own motion under chapter 563 of the general statutes and the enjoining, within the limitations of applicable law, of organizations, individuals or groups who prevent directly or indirectly or seek to prevent directly or indirectly compliance with the provisions of this Order.

(3) Recommend that criminal proceedings be brought under chapter 939 of the general statutes.

(4) Cancel, terminate, suspend or cause to be cancelled, terminated, or suspended in accordance with law any contract or any portion or portions thereof for failure of the contractor or subcontractor to comply with the nondiscrimination provisions of the contract. Contracts may be cancelled, terminated, suspended absolutely or their continuance conditioned upon a program for fixture compliance approved by the contracting agency.

(5) Provide that any contracting agency shall refrain from entering into any further contracts or extensions or modifications of existing contracts with any contractor until he has satisfied the labor commissioner that he has established and will carry out personnel and employment policies compliant with this Order.

(6) Under regulations prescribed by the labor commissioner each contracting agency shall make reasonable efforts within a reasonable period of time to secure compliance with the contract provisions of this Order by methods of conference conciliation, mediation or persuasion, before other proceedings shall be instituted under this Order or before a state contract shall be cancelled or terminated in whole or in part for failure of the contractor or subcontractor to comply with the contract provisions of state statute and this Order.

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

XI

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

XII

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

XIII

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

XIV

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

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

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

Thomas J. Meskill, GOVERNOR

Filed this ____ day of June, 1971.

SECRETARY OF THE STATE
(DEPUTY)

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Executive Order 16



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State of Connecticut

By His Excellency

John G. Rowland

Governor

Executive Order No. Sixteen

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

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

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

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

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

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

Therefore, except as may be required as a condition of employment^{3/4}

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

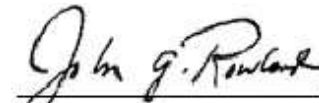
Weapon means any firearm, including a BB gun, whether loaded or unloaded, any knife (excluding a small pen or pocket knife), including a switchblade or other knife having an automatic spring release device, a stiletto, any police baton or nightstick or any martial arts weapon or electronic defense weapon.

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

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

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

Dated in Hartford, Connecticut, this fourth day of August, 1999.


JOHN G. ROWLAND, Governor

Filed this 4th day of August, 1999.

SUSAN BYSIEWICZ, Secretary of
the State



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Executive Order 17



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STATE OF CONNECTICUT

BY HIS EXCELLENCY

THOMAS J. MESKILL

GOVERNOR

EXECUTIVE ORDER NO. SEVENTEEN

WHEREAS, Section 31-237 of the General Statutes of Connecticut as amended requires the maintaining of the established free services of the Connecticut State Employment Service to both employers and prospective employees and

WHEREAS, Section 31-5 of the General Statutes of Connecticut requires that no compensation or fee shall be charged or received directly or indirectly for the services of the Connecticut State Employment Service and

WHEREAS, large numbers of our citizens who have served in the Armed Forces of our nation are returning to civilian life in our state and seeking employment in civilian occupations and

WHEREAS, we owe a duty as well as gratitude to these returning veterans including the duty to find suitable employment for them and

WHEREAS, many of our handicapped citizens are fully capable of employment and are entitled to be placed in suitable employment and

WHEREAS, many of the citizens of our state who are unemployed are unaware of the job openings and employment opportunities which do in fact exist in our state and

WHEREAS, notwithstanding the free services of the Connecticut State Employment Service, many of our Connecticut employers do not use its free services or do not avail themselves fully of all of the services offered,

NOW, THEREFORE, I THOMAS J. MESKILL, Governor of the State of Connecticut, acting by virtue of the authority vested in me under the fourth article of the Constitution of the State and in accordance with Section 3-1 of the General Statutes, do hereby ORDER and DIRECT, as follows, by this Executive Order:

I

The Labor Commissioner shall be responsible for the administration of this Order and shall do all acts necessary and appropriate to achieve its purpose. Upon promulgation of this Order, the Commissioner of Finance and Control shall issue a directive forthwith to all state agencies, that henceforth all state contracts and subcontracts for construction on public buildings, other public works and goods and services shall contain a provision rendering such contract or subcontract subject to this Order, and that such contract or subcontract may be cancelled, terminated or suspended by the Labor Commissioner for violation of or noncompliance with this Order, notwithstanding that the Labor Commissioner is not a party to such contract or subcontract.

II

Every contractor and subcontractor having a contract with the State or any of its agencies, boards, commissions, or departments, every individual partnership, corporation, or business entity having business with the state or who or which seeks to do business with the state, and every bidder or prospective bidder who submits a bid or replies to an invitation to bid on any state contract shall list all employment openings with the office of the Connecticut State Employment Service in the area where the work is to be performed or where the services are to be rendered.

III

All state contracts shall contain a clause which shall be a condition of the contract that the contractor and any subcontractor holding a contract directly under the contractor shall list all employment openings with the Connecticut State Employment Service. The Labor Commissioner may allow exceptions to listings of employment openings which the contractor proposes to fill from within its organizations from employees on the rolls of the contractor on the date of publication of the invitation to bid or the date on which the public announcement was published or promulgated advising of the program concerned.

IV

Each contracting agency of the state shall be primarily responsible for obtaining compliance with this Executive Order. Each contracting agency shall appoint or designate from among its personnel one or more persons who shall be responsible for compliance with the objectives of the Order.

V

The Labor Commissioner shall be and is hereby empowered to inspect the books, records, payroll and personnel data of each individual or business entity subject to this Executive Order and may hold hearings or conferences, formal or informal, in pursuance of the duties and responsibilities hereunto delegated to the Labor Commissioner.

VI

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

VII

- a. The Labor Commissioner may hold or cause to be held hearings, prior to imposing, ordering, or recommending the imposition of penalties and sanctions under this Order. In accordance herewith, the Commissioner or the appropriate contracting agency may suspend, cancel, terminate, or cause to be suspended, cancelled, or terminated in accordance with law any contract or any portion or portions thereof for failure of the contractor or subcontractor to comply with the listing provisions of the contract. Contracts may be cancelled, terminated, suspended absolutely or their continuance conditioned upon a program for future compliance approved by the contracting agency.
- b. Any contracting agency taking any action authorized by this Order, whether on its own motion or as directed by the Labor Commissioner, shall promptly notify him of such action. Whenever the Labor Commissioner makes a determination under this Order, he shall promptly notify the appropriate contracting agency of the action recommended. The agency shall report the results to the Labor Commissioner promptly.

VIII

If the Labor Commissioner shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless he has satisfactorily complied with the provisions of this Order.

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

Dated at Hartford, Connecticut, this 15th day of February, 1973.

Thomas J. Meskill, GOVERNOR

Filed this 15th day of February,
1973.

SECRETARY OF THE STATE
(DEPUTY)

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Executive Order 11246 (amended January 21, 2025)



PRESIDENTIAL ACTIONS

ENDING ILLEGAL DISCRIMINATION AND RESTORING MERIT- BASED OPPORTUNITY

January 21, 2025

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered:

Section 1. Purpose. Longstanding Federal civil-rights laws protect individual Americans from discrimination based on race, color, religion, sex, or national origin. These civil-rights protections serve as a bedrock supporting equality of

opportunity for all Americans. As President, I have a solemn duty to ensure that these laws are enforced for the benefit of all Americans.

Yet today, roughly 60 years after the passage of the Civil Rights Act of 1964, critical and influential institutions of American society, including the Federal Government, major corporations, financial institutions, the medical industry, large commercial airlines, law enforcement agencies, and institutions of higher education have adopted and actively use dangerous, demeaning, and immoral race- and sex-based preferences under the guise of so-called “diversity, equity, and inclusion” (DEI) or “diversity, equity, inclusion, and accessibility” (DEIA) that can violate the civil-rights laws of this Nation.

Illegal DEI and DEIA policies not only violate the text and spirit of our longstanding Federal civil-rights laws, they also undermine our national unity, as they deny, discredit, and undermine the traditional American values of hard work, excellence, and individual achievement in favor of an unlawful, corrosive, and pernicious identity-based spoils system. Hardworking Americans who deserve a shot at the American Dream should not be stigmatized, demeaned, or shut out of opportunities because of their race or sex.

These illegal DEI and DEIA policies also threaten the safety of American men, women, and children across the Nation by diminishing the importance of individual merit, aptitude, hard work, and determination when selecting people for jobs and services in key sectors of American society, including all levels of government, and the medical, aviation, and law-enforcement communities. Yet in case after tragic case, the American people have witnessed first-hand the disastrous consequences of illegal, pernicious discrimination that has prioritized how people were born instead of what they were capable of doing.

The Federal Government is charged with enforcing our civil-rights laws. The

purpose of this order is to ensure that it does so by ending illegal preferences and discrimination.

Sec. 2. Policy. It is the policy of the United States to protect the civil rights of all Americans and to promote individual initiative, excellence, and hard work. I therefore order all executive departments and agencies (agencies) to terminate all discriminatory and illegal preferences, mandates, policies, programs, activities, guidance, regulations, enforcement actions, consent orders, and requirements. I further order all agencies to enforce our longstanding civil-rights laws and to combat illegal private-sector DEI preferences, mandates, policies, programs, and activities.

Sec. 3. Terminating Illegal Discrimination in the Federal Government. (a) The following executive actions are hereby revoked:

(i) Executive Order 12898 of February 11, 1994 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations);

(ii) Executive Order 13583 of August 18, 2011 (Establishing a Coordinated Government-wide Initiative to Promote Diversity and Inclusion in the Federal Workforce);

(iii) Executive Order 13672 of July 21, 2014 (Further Amendments to Executive Order 11478, Equal Employment Opportunity in the Federal Government, and Executive Order 11246, Equal Employment Opportunity); and

(iv) The Presidential Memorandum of October 5, 2016 (Promoting Diversity and Inclusion in the National Security Workforce).

(b) The Federal contracting process shall be streamlined to enhance speed and efficiency, reduce costs, and require Federal contractors and subcontractors to comply with our civil-rights laws. Accordingly:

(i) Executive Order 11246 of September 24, 1965 (Equal Employment Opportunity), is hereby revoked. For 90 days from the date of this order, Federal contractors may continue to comply with the regulatory scheme in

effect on January 20, 2025.

(ii) The Office of Federal Contract Compliance Programs within the Department of Labor shall immediately cease:

(A) Promoting “diversity”;

(B) Holding Federal contractors and subcontractors responsible for taking “affirmative action”; and

(C) Allowing or encouraging Federal contractors and subcontractors to engage in workforce balancing based on race, color, sex, sexual preference, religion, or national origin.

(iii) In accordance with Executive Order 13279 of December 12, 2002 (Equal Protection of the Laws for Faith-Based and Community Organizations), the employment, procurement, and contracting practices of Federal contractors and subcontractors shall not consider race, color, sex, sexual preference, religion, or national origin in ways that violate the Nation’s civil rights laws.

(iv) The head of each agency shall include in every contract or grant award:

(A) A term requiring the contractual counterparty or grant recipient to agree that its compliance in all respects with all applicable Federal anti-discrimination laws is material to the government’s payment decisions for purposes of section 3729(b)(4) of title 31, United States Code; and

(B) A term requiring such counterparty or recipient to certify that it does not operate any programs promoting DEI that violate any applicable Federal anti-discrimination laws.

(c) The Director of the Office of Management and Budget (OMB), with the assistance of the Attorney General as requested, shall:

(i) Review and revise, as appropriate, all Government-wide processes, directives, and guidance;

(ii) Excise references to DEI and DEIA principles, under whatever name they may appear, from Federal acquisition, contracting, grants, and financial assistance procedures to streamline those procedures, improve speed and efficiency, lower costs, and comply with civil-rights laws; and

(iii) Terminate all “diversity,” “equity,” “equitable decision-making,” “equitable deployment of financial and technical assistance,” “advancing equity,” and like mandates, requirements, programs, or activities, as appropriate.

Sec. 4. Encouraging the Private Sector to End Illegal DEI Discrimination and Preferences. (a) The heads of all agencies, with the assistance of the Attorney General, shall take all appropriate action with respect to the operations of their agencies to advance in the private sector the policy of individual initiative, excellence, and hard work identified in section 2 of this order.

(b) To further inform and advise me so that my Administration may formulate appropriate and effective civil-rights policy, the Attorney General, within 120 days of this order, in consultation with the heads of relevant agencies and in coordination with the Director of OMB, shall submit a report to the Assistant to the President for Domestic Policy containing recommendations for enforcing Federal civil-rights laws and taking other appropriate measures to encourage the private sector to end illegal discrimination and preferences, including DEI. The report shall contain a proposed strategic enforcement plan identifying:

(i) Key sectors of concern within each agency’s jurisdiction;

(ii) The most egregious and discriminatory DEI practitioners in each sector of concern;

(iii) A plan of specific steps or measures to deter DEI programs or principles (whether specifically denominated “DEI” or otherwise) that constitute illegal discrimination or preferences. As a part of this plan, each agency shall identify up to nine potential civil compliance investigations of publicly traded corporations, large non-profit corporations or associations, foundations with assets of 500 million dollars or more, State and local bar and medical associations, and institutions of higher education with endowments over 1 billion dollars;

(iv) Other strategies to encourage the private sector to end illegal DEI discrimination and preferences and comply with all Federal civil-rights laws;

- (v) Litigation that would be potentially appropriate for Federal lawsuits, intervention, or statements of interest; and
- (vi) Potential regulatory action and sub-regulatory guidance.

Sec. 5. Other Actions. Within 120 days of this order, the Attorney General and the Secretary of Education shall jointly issue guidance to all State and local educational agencies that receive Federal funds, as well as all institutions of higher education that receive Federal grants or participate in the Federal student loan assistance program under Title IV of the Higher Education Act, 20 U.S.C. 1070 et seq., regarding the measures and practices required to comply with *Students for Fair Admissions, Inc. v. President and Fellows of Harvard College*, 600 U.S. 181 (2023).

Sec. 6. Severability. If any provision of this order, or the application of any provision to any person or circumstance, is held to be invalid, the remainder of this order and the application of its provisions to any other persons or circumstances shall not be affected thereby.

Sec. 7. Scope. (a) This order does not apply to lawful Federal or private-sector employment and contracting preferences for veterans of the U.S. armed forces or persons protected by the Randolph-Sheppard Act, 20 U.S.C. 107 et seq.

(b) This order does not prevent State or local governments, Federal contractors, or Federally-funded State and local educational agencies or institutions of higher education from engaging in First Amendment-protected speech.

(c) This order does not prohibit persons teaching at a Federally funded institution of higher education as part of a larger course of academic instruction from advocating for, endorsing, or promoting the unlawful employment or contracting practices prohibited by this order.

Sec. 8. General Provisions. (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department, agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to and does not create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

THE WHITE HOUSE,
January 21, 2025.

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Executive Order 11246



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Executive Order No. 11246

September 28, 1965, 30 F.R. 12319

EQUAL EMPLOYMENT OPPORTUNITY

Under and by virtue of the authority vested in me as President of the United States by the Constitution and statutes of the United States, it is ordered as follows:

PART I----NONDISCRIMINATION IN GOVERNMENT EMPLOYMENT

Section 101. It is the policy of the Government of the United States to provide equal opportunity in Federal employment for all qualified persons, to prohibit discrimination in employment because of race, creed, color, or national origin, and to promote the full realization of equal employment opportunity through a positive, continuing program in each executive department and agency. The policy of equal opportunity applies to every aspect of Federal employment policy and practice.

Sec. 102. The head of each executive department and agency shall establish and maintain a positive program of equal employment opportunity for all civilian

employees and applicants for employment within his jurisdiction in accordance with the policy set forth in Section 101.

Sec. 103. The Civil Service Commission shall supervise and provide leadership and guidance in the conduct of equal employment opportunity programs for the civilian employees of and applications for employment within the executive departments and agencies and shall review agency program accomplishments periodically. In order to facilitate the achievement of a model program for equal employment opportunity in the Federal service, the Commission may consult from time to time with such individuals, groups, or organizations as may be of assistance in improving the Federal program and realizing the objectives of this Part.

Sec. 104. The Civil Service Commission shall provide for the prompt, fair, and impartial consideration of all complaints of discrimination in Federal employment on the basis of race, creed, color, or national origin. Procedures for the consideration of complaints shall include at least one impartial review within the executive department or agency and shall provide for appeal to the Civil Service Commission.

Sec. 105. The Civil Service Commission shall issue such regulations, orders, and instructions as it deems necessary and appropriate to carry out its responsibilities under this Part, and the head of each executive department and agency shall comply with the regulations, orders, and instructions issued by the Commission under this Part.

PART II NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT CONTRACTORS AND SUBCONTRACTORS

SUBPART A DUTIES OF THE SECRETARY OF LABOR

Sec. 201. The Secretary of Labor shall be responsible for the administration of Parts II and III of this Order and shall adopt such rules and regulations and issue such orders as he deems necessary and appropriate to achieve the purposes thereof.

SUBPART B CONTRACTORS' AGREEMENTS

Sec. 202. Except in contracts exempted in accordance with Section 204 of this Order, all Government contracting agencies shall include in every Government contract hereafter entered into the following provisions:

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

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

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

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

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

of the Secretary of Labor.

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

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

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

Sec. 203. (a) Each contractor having a contract containing the provisions prescribed in Section 202 shall file, and shall cause each of his subcontractors to file, Compliance Reports with the contracting agency or the Secretary of Labor as may be directed. Compliance Reports shall be filed within such times and shall contain

such information as to the practices, policies, programs, and employment policies, programs, and employment statistics of the contractor and each subcontractor, and shall be in such form, as the Secretary of Labor may prescribe.

(b) Bidders or prospective contractors or subcontractors may be required to state whether they have participated in any previous contract subject to the provisions of this Order, or any preceding similar Executive order, and in that event to submit, on behalf of themselves and their proposed subcontractors, Compliance Reports prior to or as an initial part of their bid or negotiation of a contract.

(c) Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers or providing or supervising apprenticeship or training for such workers, the Compliance Report shall include such information as to such labor union's or agency's practices and policies affecting compliance as the Secretary of Labor may prescribe: Provided, That to the extent such information is within the exclusive possession of a labor union or an agency referring workers or providing or supervising apprenticeship or training and such labor union or agency shall refuse to furnish such information to the contractor, the contractor shall so certify to the contracting agency as part of its Compliance Report and shall set forth what efforts he has made to obtain such information.

(d) The contracting agency or the Secretary of Labor may direct that any bidder or prospective contractor or subcontractor shall submit, as part of his Compliance Report, a statement in writing, signed by an authorized officer or agent on behalf of any labor union or any agency referring workers or providing or supervising apprenticeship or other training, with which the bidder or prospective contractor deals, with supporting information, to the effect that the signer's practices and policies do not discriminate on the grounds of race, color, creed, or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this Order or that it consents and agrees that recruitment, employment, and the terms and conditions of employment under the proposed contract shall be in accordance with the purposes and provisions of the Order. In the event that the union, or the agency shall refuse to execute such a statement, the Compliance Report shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the contracting agency or the Secretary of Labor may require.

Sec. 204. The Secretary of Labor may, when he deems that special circumstances in the national interest so require, exempt a contracting agency from the requirement of including any or all of the provisions of Section 202 of this Order in any specific contract, subcontract, or purchase order. The Secretary of Labor may, by rule or regulation, also exempt certain classes of contracts, subcontracts, or purchase orders (1) whenever work is to be or has been performed outside the United States and no recruitment of workers within the limits of the United States is involved; (2) for standard commercial supplies or raw materials; (3) involving less than specified amounts of money or specified numbers or workers; or (4) to the extent that they involve subcontracts below a specified tier. The Secretary of Labor may also provide, by the rule, regulation, or order, for the exemption of facilities of a contractor which are in all respects separate and distinct from activities of the contractor related to the performance of the contract: Provided, That such an exemption will not interfere with or impede the effectuation of the purposes of this Order: And provided further, That in the absence of such an exemption all facilities shall be covered by the provisions of this Order.

SUBPART C POWERS AND DUTIES OF THE SECRETARY OF LABOR AND THE CONTRACTING AGENCIES

Sec. 205. Each contracting agency shall be primarily responsible for obtaining compliance with the rules, regulations, and orders of the Secretary of Labor with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the rules of the Secretary of Labor in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this Order and of the rules, regulations, and orders of the Secretary of Labor issued pursuant to this Order. They are directed to cooperate with the Secretary of Labor and to furnish the Secretary of Labor such information and assistance as he may require in the performance of his functions under this Order. They are further directed to appoint or designate, from among the agency's personnel, compliance officers. It shall be the duty of such officers to seek compliance with the objectives of this Order by conference, conciliation, mediation, or persuasion.

Sec. 206. (a) The Secretary of Labor may investigate the employment practices of any Government contractor or subcontractor, or initiate such investigation by the appropriate contracting agency, to determine whether or not the contractual provisions specified in Section 202 of this Order have been violated. Such

investigation shall be conducted in accordance with the procedures established by the Secretary of Labor and the investigating agency shall report to the Secretary of Labor any action taken or recommended.

(b) The Secretary of Labor may receive and investigate or cause to be investigated complaints by employees or prospective employees of a Government contractor or subcontractor which allege discrimination contrary to the contractual provisions specified in Section of 202 of this Order. If this investigation is conducted for the Secretary of Labor by a contracting agency, that agency shall report to the Secretary what action has been taken or is recommended with regard to such complaints.

Sec. 207. The Secretary of Labor shall use his best efforts, directly and through contracting agencies, other interested Federal, State, and local agencies, contractors, and all other available instrumentalities to cause any labor union engaged in work under Government contracts or any agency referring workers or providing or supervising apprenticeship or training for or in the course of such work to cooperate in the implementation of the purposes of this Order. The Secretary of Labor shall, in appropriate cases, notify the Equal Employment Opportunity Commission, the Department of Justice, or other appropriate Federal agencies whenever it has reason to believe that the practices of any such labor organization or agency violate Title VI or Title VII of the Civil Rights Act of 1964 or other provision of Federal law.

Sec. 208. (a) The Secretary of Labor, or any agency, officer, or employee in the executive branch of the Government designated by rule, regulation, or order of the Secretary, may hold such hearings, public or private, as the Secretary may deem advisable for compliance, enforcement, or educational purposes.

(b) The Secretary of Labor may hold, or cause to be held, hearings in accordance with Subsection (a) of this Section prior to imposing, ordering, or recommending the imposition of penalties and sanctions under this Order. No order for debarment of any contractor from further Government contracts under Section 209(a) (6) shall be made without affording the contractor an opportunity for a hearing.

SUBPART D SANCTIONS AND PENALTIES

Sec. 209. (a) In accordance with such rules, regulations, or orders as the Secretary of Labor may issue or adopt, the Secretary or the appropriate contracting agency may:

(1) Publish, or cause to be published, the names of contractors or unions which it has concluded have complied or have failed to comply with the provisions of this Order or of the rules, regulations, and orders of the Secretary of Labor.

(2) Recommend to the Department of Justice that, in cases in which there is substantial or material violation or the threat of substantial or material violation of the contractual provisions set forth in Section 202 of this Order, appropriate proceedings be brought to enforce those provisions, including the enjoining, within the limitations of applicable law, of organizations, individuals, or groups who prevent directly or indirectly, or seek to prevent directly or indirectly, compliance with the provisions of this Order.

(3) Recommend to the Equal Employment Opportunity Commission or the Department of Justice that appropriate proceedings be instituted under Title VII of the Civil Rights Act of 1964.

(4) Recommend to the Department of Justice that criminal proceedings be brought for the furnishing of false information to any contracting agency or to the Secretary of Labor as the case may be.

(5) Cancel, terminate, suspend, or cause to be cancelled, terminated, or suspended, any contract, or any portion or portions thereof, for failure of the contractor or subcontractor to comply with the nondiscrimination provisions of the contract. Contracts may be cancelled, terminated, or suspended absolutely or continuance of contracts may be conditioned upon a program for future compliance approved by the contracting agency.

(6) Provide that any contracting agency shall refrain from entering into further contracts, or extensions or other modifications of existing contracts, with any noncomplying contractor, until such contractor has satisfied the Secretary of Labor that such contractor has established and will carry out personnel and employment policies in compliance with the provisions of this Order.

(b) Under rules and regulations prescribed by the Secretary of Labor, each contracting agency shall make reasonable efforts within a reasonable time limitation to secure compliance with the contract provisions of this Order by methods of conference, conciliation, mediation, and persuasion before proceedings shall be instituted under Subsection (a) (2) of this Section, or before a contract shall be cancelled or terminated in whole or in part under Subsection (a) (5) of this

Section for failure of a contractor or subcontractor to comply with the contract provisions of this Order.

Sec. 210. Any contracting agency taking any action authorized by this Subpart, whether on its own motion, or as directed by the Secretary of Labor, or under the rules and regulations of the Secretary, shall promptly notify the Secretary of such action. Whenever the Secretary of Labor makes a determination under this Section, he shall promptly notify the appropriate contracting agency of the action recommended. The agency shall take such action and shall report the results thereof to the Secretary of Labor within such time as the Secretary shall specify.

Sec. 211. If the Secretary shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless the bidder or prospective contractor has satisfactorily complied with the provisions of this Order or submits a program for compliance acceptable to the Secretary of Labor or, if the Secretary so authorizes, to the contracting agency.

Sec. 212. Whenever a contracting agency cancels or terminates a contract, or whenever a contractor has been debarred from further Government contracts, under Section 209(a) (6) because of noncompliance with the contract provisions with regard to nondiscrimination, the Secretary of Labor, or the contracting agency involved, shall promptly notify the Comptroller General of the United States. Any such debarment may be rescinded by the Secretary of Labor or by the contracting agency which imposed the sanction.

SUBPART E CERTIFICATES OF MERIT

Sec. 213. The Secretary of Labor may provide for issuance of a United States Government Certificate of Merit to employers or labor unions, or other agencies which are or may hereafter be engaged in work under Government contracts, if the Secretary is satisfied that the personnel and employment practices of the employer, or that the personnel, training, apprenticeship, membership, grievance and representation, upgrading, and other practices and policies of the labor union or other agency conform to the purposes and provisions of this Order.

Sec. 214. Any Certificate of Merit may at any time be suspended or revoked by the Secretary of Labor if the holder thereof, in the judgment of the Secretary, has failed to comply with the provisions of this Order.

Sec. 215. The Secretary of Labor may provide for the exemption of any employer, labor union, or other agency from any reporting requirements imposed under or pursuant to this Order if such employer, labor union, or other agency has been awarded a Certificate of Merit which has not been suspended or revoked.

PART III NONDISCRIMINATION PROVISIONS IN FEDERALLY ASSISTED CONSTRUCTION CONTRACTS

Sec. 301. Each executive department and agency which administers a program involving Federal financial assistance shall require as a condition for the approval of any grant, contract, loan, insurance, or guarantee thereunder, which may involve a construction contract, that the applicant for Federal assistance undertake and agree to incorporate, or cause to be incorporated, into all construction contracts paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to such grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the provisions prescribed for Government contracts by Section 202 of this Order or such modification thereof, preserving in substance the contractor's obligations thereunder, as may be approved by the Secretary of Labor, together with such additional provisions as the Secretary deems appropriate to establish and protect the interest of the United States in the enforcement of those obligations. Each such applicant shall also undertake and agree (1) to assist and cooperate actively with the administering department or agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with those contract provisions and with the rules, regulations, and relevant orders of the Secretary, (2) to obtain and to furnish to the administering department or agency and to the Secretary of Labor such information as they may require for the supervision of such compliance, (3) to carry out sanctions and penalties for violations of such obligations imposed upon contractors and subcontractors by the Secretary of Labor or the administering department or agency pursuant to Part II, Subpart D, of this Order, and (4) to refrain from entering into any contract subject to this Order, or extension or other modification of such a contract with a contractor debarred from Government contracts under Part II, Subpart D, of this Order.

Sec. 302. (a) "Construction contract" as used in this Order means any contract for the construction, rehabilitation, alteration, conversion, extension, or repair of

buildings, highways, or other improvements to real property.

(b) The provisions of Part II of the Order shall apply to such construction contracts, and for purposes of such application the administering department or agency shall be considered the contracting agency referred to therein.

(c) The term "applicant" as used in this Order means an applicant for Federal assistance or, as determined by agency regulation, other program participant, with respect to whom an application for any grant, contract, loan, insurance, or guarantee is not finally acted upon prior to the effective date of this Part, and it includes such an applicant after he becomes a recipient of such Federal assistance.

Sec. 303. (a) Each administering department or agency shall be responsible for obtaining the compliance of such applicants with their undertakings under this Order. Each administering department and agency is directed to cooperate with the Secretary of Labor, and to furnish the Secretary such information and assistance as he may require in the performance of his functions under this Order.

(b) In the event an applicant fails and refuses to comply with his undertakings, the administering department or agency may take any or all of the following actions: (1) cancel, terminate, or suspend in whole or in part the agreement, contract, or other arrangement with such applicant with respect to which the failure and refusal occurred; (2) refrain from extending any further assistance to the applicant under the program with respect to which the failure or refusal occurred until satisfactory assurance of future compliance has been received from such applicant; and (3) refer the case to the Department of Justice for appropriate legal proceedings.

(c) Any action with respect to an applicant pursuant to Subsection (b) shall be taken in conformity with Section 602 of the Civil Rights Act of 1964 (and the regulations of the administering department or agency issued thereunder), to the extent applicable. In no case shall action be taken with respect to an applicant pursuant to Clause (1) or (2) of Subsection (b) without notice and opportunity for hearing before the administering department or agency.

Sec. 304. Any executive department or agency which imposes by rule, regulation or order requirements of nondiscrimination in employment, other than requirements imposed pursuant to this Order, may delegate to the Secretary of Labor by agreement such responsibilities with respect to compliance standards, reports and procedures as would tend to bring the administration of such requirements into

conformity with the administration of requirements imposed under this Order: Provided, That actions to effect compliance by recipients of Federal financial assistance with requirements imposed pursuant to Title VI of the Civil Rights Act of 1964 shall be taken in conformity with the procedures and limitations prescribed in Section 602 thereof and the regulations of the administering department or agency issued thereunder.

PART IV - MISCELLANEOUS

Sec. 401. The Secretary of Labor may delegate to any officer, agency, or employee in the Executive branch of the Government, any function or duty of the Secretary under Parts II and III of this Order, except authority to promulgate rules and regulations of a general nature.

Sec. 402. The Secretary of labor shall provide administrative support for the execution of the program known as the "Plans for Progress."

Sec. 403. (a) Executive Orders Nos. 10590 (January 19, 1955), 10722 (August 5, 1957), 10925 (March 6, 1961), 11114 (June 22, 1963), and 11162 (July 28, 1964), are hereby superseded and the President's Committee on Equal Employment Opportunity established by Executive Order No. 10925 is hereby abolished. All records and property in the custody of the Committee shall be transferred to the Civil Service Commission and the Secretary of Labor, as appropriate.

(b) Nothing in this Order shall be deemed to relieve any person of any obligation assumed or imposed under or pursuant to any Executive order superseded by this Order. All rules, regulations, orders, instructions, designations, and other directives issued by the President's Committee on Equal Employment Opportunity and those issued by the heads of various departments or agencies under or pursuant to any of the Executive Orders superseded by this Order, shall, to the extent that they are not inconsistent with this Order, remain in full force and effect unless and until revoked or superseded by appropriate authority. References in such directives to provisions of the superseded orders shall be deemed to be references to the comparable provisions of this Order.

Sec. 404. The General Services Administration shall take appropriate action to revise the standard Government contract forms to accord with the provisions of this Order and of the rules and regulations of the Secretary of Labor.

Sec. 405. This Order shall become effective thirty days after the date of this Order.

Lyndon B. Johnson
The White House
September 24, 1965

Executive Order 12549

Executive Orders

Executive Order 12549--Debarment and suspension

Source: The provisions of Executive Order 12549 of Feb. 18, 1986, appear at 51 FR 6370, 3 CFR, 1986 Comp., p. 189, unless otherwise noted.

By the authority vested in me as President by the Constitution and laws of the United States of America, and in order to curb fraud, waste, and abuse in Federal programs, increase agency accountability, and ensure consistency among agency regulations concerning debarment and suspension of participants in Federal programs, it is hereby ordered that:

Section 1. (a) To the extent permitted by law and subject to the limitations in Section 1(c), Executive departments and agencies shall participate in a system for debarment and suspension from programs and activities involving Federal financial and nonfinancial assistance and benefits. Debarment or suspension of a participant in a program by one agency shall have government-wide effect.

(b) Activities covered by this Order include but are not limited to: grants, cooperative agreements, contracts of assistance, loans, and loan guarantees.

(c) This Order does not cover procurement programs and activities, direct Federal statutory entitlements or mandatory awards, direct awards to foreign governments or public international organizations, benefits to an individual as a personal entitlement, or Federal employment.

Sec. 2. To the extent permitted by law, Executive departments and agencies shall:

(a) Follow government-wide criteria and government-wide minimum due process procedures when they act to debar or suspend participants in affected programs.

(b) Send to the agency designated pursuant to Section 5 identifying information concerning debarred and suspended participants in affected programs, participants who have agreed to exclusion from participation, and participants declared ineligible under applicable law, including Executive Orders. This information shall be included in the list to be maintained pursuant to Section 5.

(c) Not allow a party to participate in any affected program if any Executive department or agency has debarred, suspended, or otherwise excluded (to the extent specified in the exclusion agreement) that party from participation in an affected program. An agency may grant an exception permitting a debarred, suspended, or excluded party to participate in a

particular transaction upon a written determination by the agency head or authorized designee stating the reason(s) for deviating from this Presidential policy. However, I intend that exceptions to this policy should be granted only infrequently.

Sec. 3. Executive departments and agencies shall issue regulations governing their implementation of this Order that shall be consistent with the guidelines issued under Section 6. Proposed regulations shall be submitted to the Office of Management and Budget for review within four months of the date of the guidelines issued under Section 6. The Director of the Office of Management and Budget may return for reconsideration proposed regulations that the Director believes are inconsistent with the guidelines. Final regulations shall be published within twelve months of the date of the guidelines.

Sec. 4. There is hereby constituted the Interagency Committee on Debarment and Suspension, which shall monitor implementation of this Order. The Committee shall consist of representatives of agencies designated by the Director of the Office of Management and Budget.

Sec. 5. The Director of the Office of Management and Budget shall designate a Federal agency to perform the following functions: maintain a current list of all individuals and organizations excluded from program participation under this Order, periodically distribute the list to Federal agencies, and study the feasibility of automating the list; coordinate with the lead agency responsible for government-wide debarment and suspension of contractors; chair the Interagency Committee established by Section 4; and report periodically to the Director on implementation of this Order, with the first report due within two years of the date of the Order.

Sec. 6. The Director of the Office of Management and Budget is authorized to issue guidelines to Executive departments and agencies that govern which programs and activities are covered by this Order, prescribe government-wide criteria and government-wide minimum due process procedures, and set forth other related details for the effective administration of the guidelines.

Sec. 7. The Director of the Office of Management and Budget shall report to the President within three years of the date of this Order on Federal agency compliance with the Order, including the number of exceptions made under Section 2(c), and shall make recommendations as are appropriate further to curb fraud, waste, and abuse.

CT General Statutes 4a-60

EXHIBIT B

(a) CGS Section 4a-60. In accordance with Connecticut General Statutes Section 4a-60, as amended, and to the extent required by Connecticut law, **[NAME OF CONTRACTOR]** (“CONTRACTOR”) agrees and warrants as follows: (1) in the performance of this Agreement it will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability, or physical disability, including, but not limited to, blindness, unless it is shown by CONTRACTOR that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut and further 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, status as a veteran, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability, or physical disability, including, but not limited to, blindness, unless it is shown by CONTRACTOR that such disability prevents performance of the work involved; (2) in all solicitations or advertisements for employees placed by or on behalf of CONTRACTOR, to state that it is an “affirmative action-equal opportunity employer” in accordance with regulations adopted by the Commission on Human Rights and Opportunities (the “CHRO”); (3) to provide each labor union or representative of workers with which CONTRACTOR has a collective bargaining agreement or other contract or understanding and each vendor with which CONTRACTOR has a contract or understanding, a notice to be provided by the CHRO advising the labor union or workers’ representative of the commitments of CONTRACTOR under Connecticut General Statutes Section 4a-60, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) to comply with each provision of Connecticut General Statutes Sections 4a-60, 46a-68e and 46a-68f and with each regulation or relevant order issued by the CHRO pursuant to Connecticut General Statutes Sections 46a-56, 46a-68e, 46a-68f and 46a-86; (5) to provide the CHRO with such information requested by the CHRO, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of CONTRACTOR as relate to the provisions of Connecticut General Statutes Sections 4a-60 and 46a-56; and (6) to include provisions (1) through (5) of this section in every subcontract or purchase order entered into by CONTRACTOR in order to fulfill any obligation of this Agreement, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the CHRO and take such action with respect to any such subcontract or purchase order as the CHRO may direct as a means of enforcing such provisions in accordance with Connecticut General Statutes Section 4a-60.

(b) CGS Section 4a-60a. In accordance with Connecticut General Statutes Section 4a-60a, as amended, and to the extent required by Connecticut law, CONTRACTOR agrees and warrants as follows: (1) that in the performance of this Agreement, it will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) to provide each labor union or representative of workers with which CONTRACTOR has a collective bargaining agreement or other contract or understanding and each vendor with which CONTRACTOR has a contract or understanding, a notice to be provided by the CHRO advising the labor union or workers' representative of the commitments of CONTRACTOR under Connecticut General Statutes Section 4a-60a, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) to comply with each provision of Connecticut General Statutes Section 4a-60a and with each regulation or relevant order issued by the CHRO pursuant to Connecticut General Statutes Section 46a-56; (4) to provide the CHRO with such information requested by the CHRO, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of CONTRACTOR which relate to the provisions of Connecticut General Statutes Sections 4a-60a and 46a-56; and (5) to include provisions (1) through (4) of this section in every subcontract or purchase order entered into by CONTRACTOR in order to fulfill any obligation of this Agreement, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the CHRO and take such action with respect to any such subcontract or purchase order as the CHRO may direct as a means of enforcing such provisions in accordance with Connecticut General Statutes Section 4a-60a.

(c) Required Nondiscrimination Submissions. CONTRACTOR agrees and warrants that (1) it has delivered to CHEFA an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson, member, or other corporate officer duly authorized to adopt corporate or company policy in the form attached as _____ hereto; (2) if there is a change in the information contained in the most recently filed affidavit, CONTRACTOR will submit an updated affidavit not later than the earlier of the execution of a new contract with the state or a political subdivision of the state or thirty days after the effective date of such change; and (3) CONTRACTOR will deliver an affidavit to CHEFA annually, not later than fourteen days after the twelve-month anniversary of the most recently filed affidavit, stating that the affidavit on file with CHEFA is current and accurate.

Clean Water Memo 2-19-003

Clean Water Fund Memorandum (2019-003)

Disadvantaged Business Enterprise (DBE) Subcontractor Participation on Clean Water Fund (CWF) Projects for Construction Projects

I. PURPOSE

The municipality, through its prime contractor must make specified good faith efforts to attain the DBE goals as specified in this document in Section III. This is an administrative condition of the U.S. Environmental Protection Agency (EPA) Grant which funds CWF projects.

This memorandum supersedes the **Clean Water Fund Memorandum (2016-003)**

II. GOVERNING STATUTE OR REGULATION

General Compliance (Federal), 40 CFR, Part 33: The municipality, through its prime contractor must comply with the requirements of EPA's Program for Utilization of DBEs.

III. EPA REQUIREMENTS

The following clause shall be included in all construction contract documents and amendments for goods and services to be funded under the CWF:

The requirement for DBE subcontractor participation, expressed as a percentage of the total eligible contract amount, shall be a minimum of 8.0 percent with the following makeup:

Minority Business Enterprise (MBE): 3.0 percent
Woman Business Enterprise (WBE): 5.0 percent

Failure to meet or exceed the required percentage or submit acceptable documentation of the six good faith efforts may render a bid non-responsive and may cause the bid to be rejected.

IV. THE SIX GOOD FAITH EFFORTS AS SPECIFICALLY DEFINED BY EPA

The Six Good Faith Efforts are required methods employed by all Connecticut Department of Energy and Environmental Protection (DEEP) CWF recipients to ensure that all DBEs have the opportunity to compete for procurements funded by DEEP financial assistance dollars. The prime contractor is expected to employ the six good faith efforts throughout the entire project to insure that the DBE percentages are maintained or exceeded in the event that one DBE subcontractor needs to be substituted for another.

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the services and assistance of the Small Business Administration (SBA) (Federal) and the Minority Business Development Agency of the Department of Commerce.
6. If the prime contractor awards subcontracts, require the prime contractor to take the above steps.

The prime contractor's certification as a DBE has no effect on this requirement. Therefore, if the prime contractor is a DBE, the Six Good Faith Efforts defined above must be employed in the procurement of subcontracts to be secured to achieve the MBE 3.0% and WBE 5.0% participation.

V. CERTIFICATION

A DBE must be certified at the time that the subcontract for their services is executed. A business that is pending new certification, recertification, or whose certification has expired **cannot** be counted toward the goals.

In the case where a subcontractor DBE is certified as both a MBE and a WBE (a woman who is also a member of a minority class):

1. The prime contractor may count the entire value of the subcontract as either a MBE or a WBE.
2. The prime contractor may choose to split the subcontract between the MBE and the WBE categories to fulfill both goals. If the prime contractor chooses this route:
 - a. They must indicate the dollars to be apportioned to the categories either on the face of the copy of the fully executed subcontract submitted to the Connecticut Department of Energy and Environmental Protection (DEEP) or by some other written method.
 - b. The certification submitted to DEEP must indicate that the principal of the subcontractor is both a woman and a minority.
 - c. For a certification that only identifies the subcontractor as a DBE, additional documentation is required as proof of dual status. In the case of Connecticut Department of Transportation (CTDOT), the detailed information page within their online database suffices as proof.

VI. ACCEPTABLE CERTIFICATION OPTIONS

1. **Connecticut Department of Administrative Services (DAS)** - DEEP will continue to accept DAS certification until such time as other State entities are identified whose certification processes meet the EPA criteria. DAS will only certify Connecticut based firms that meet the criteria under Connecticut General Statute 4a-60g.
2. **CTDOT** - Companies that desire to do business with CTDOT as well as the DEEP should seek CTDOT certification which will be accepted by the DEEP. DBE firms are advised that the certification process can take 90 days to complete. CTDOT will certify both in state as well as out of state firms.

3. **EPA** - In the event an entity cannot be certified by CTDOT as a DBE, that entity should seek certification with EPA. Such entities must provide EPA with evidence from CTDOT denying certification.
4. **SBA** - Certification is available to companies under the Woman Owned Small Business (WOSB) program and the SBA 8(a) Business Development Program (www.sba.gov/8abd/) which has a net worth ceiling of \$250,000 for initial applicants.
5. **Other states certification** - Prime contractors may utilize certification from other states. Such certification must specify the DBE designation. Where there is no DBE certification option within a state, the instance must be presented to the DEEP Financial Administrator assigned to the project for consideration on a per case basis.

VII. DBE COMPLIANCE PROCESS

1. Within fourteen (14) calendar days after bid opening the prime contractor (apparent low bidder) shall complete and submit two copies of the DEEP Subcontractor Verification Form along with the DBE certification for each subcontractor to the municipality. The municipality must then submit one copy of these documents to DEEP as part of the authorization to award request.
2. Once DEEP authorizes the municipality to award the contract, the prime contractor is required to submit two copies of the executed DBE subcontracts to the municipality who submits one copy to the DEEP Financial Administrator.
3. No payment requests will be processed by DEEP until the executed copies of the subcontracts and the DBE certifications are on file in the DEEP office.
4. Should the prime contractor not meet the goals, documentation of good faith efforts will be required to be submitted to the DEEP Municipal Facilities Wastewater Engineer for consideration that the good faith effort was extensive enough to warrant the acceptance of a lower goal for the specific contract in question.
5. In the event that a DBE subcontractor is substituted for another during the project, two copies of the executed subcontract along with the corresponding DBE certification for the substitute are submitted to the municipality who forwards one copy of each to the DEEP Financial Administrator.
6. If additional construction costs are approved by DEEP, the prime contractor employs the good faith efforts defined above to meet the goals for the new total eligible contract amount.

VIII. DAS PREQUALIFICATION CERTIFICATION FOR DBE SUBCONTRACTORS

At time that the prime contractor submits copies of the executed DBE subcontracts to the municipality, two copies of the current DAS Prequalification Certificate for each DBE subcontractor whose subcontract value is equal to or greater than \$500,000 must also be submitted. In turn, the municipality is required to submit one copy of each DBE Prequalification Certification to the DEEP Financial Administrator. Suppliers of material or products who do not do installation or construction work are not subject to the DAS Construction Contractor prequalification requirement.

IX. SUBMISSION OF THIS FORM

This form is to be signed by the contractor or the contractor's authorized representative. The form is then submitted to the municipality's representative for signature. The municipality includes the form as part of the authorization to award request to DEEP.

I hereby verify that I have read and understand the DBE requirements in this memorandum and will procure subcontracts whose percentages will meet or exceed the minimums listed above.

Contract Name _____

Name of Prime Contractor _____

Name and Title of Authorized Officer _____

Authorized Signature _____ Date _____

Town Official and Title _____

Authorized Signature _____ Date _____

X. DEFINITIONS

CGS: Connecticut General Statutes

CTDOT: Connecticut Department of Transportation

CWF: Clean Water Fund

DAS: Connecticut Department of Administrative Services

DBE: Disadvantaged Business Enterprise

DEEP: Connecticut Department of Energy and Environmental Protection

EPA: Environmental Protection Agency (Federal)

MBE: Minority Business Enterprise

SBA: Small Business Administration (Federal)

WBE: Woman Business Enterprise

WOSB: Woman Owned Small Business (Federal program - SBA)

June 19, 2019
Date


Denise Ruzicka, Director
Water Planning and Management Division
Bureau of Water Protection & Land Reuse

UV Guidelines for Groundwater Public Water Systems

STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH
DRINKING WATER SECTION

**GUIDELINES FOR INSTALLING AND MAINTAINING ULTRAVIOLET LIGHT
TREATMENT UNITS FOR THE PRIMARY DISINFECTION OF GROUNDWATER
PUBLIC WATER SYSTEMS**

Authority: Regulations of Connecticut State Agencies (RCSA) Section 19-13-B102(d)(2) requires approval from the Department of any treatment prior to installation. Discretion in the application of these guidelines is allowable except as required by regulation.

Applicability: Ultraviolet light treatment units, referred to as UV units, may be considered for approval by the Drinking Water Section (DWS) for installation on groundwater public water systems (PWS) as a means of primary disinfection. The following guidance is provided in the interest of facilitating the approval process:

1. The sources of supply to be treated by the UV unit should be groundwater not under the direct influence of surface water.
2. Confirmation should be made that the source of bacteriological contamination is originating solely from the source(s) of supply. If the source of bacteriological contamination is originating anywhere other than the source(s) of supply (i.e cross connections, etc.), then UV disinfection would not be appropriate for primary disinfection of the source(s) and would not be recognized as such by the DWS.
3. UV units should be certified to NSF/ANSI Standard 55 for Class A units or approved equal.
4. The water quality entering the UV unit should, at a minimum, meet the criteria of the next section, *Prerequisite Water Quality Criteria*.

Prerequisite Water Quality Criteria: Water to be treated by the UV unit should be sampled and analyzed by a State certified environmental laboratory for the minimum water quality parameters shown below:

Bacteriological Quality: UV units will only provide disinfection to bacteriologically contaminated water which passes through the unit. To determine if the UV unit would provide effective primary disinfection, water samples should be collected from the following locations specified and analyzed for total coliform bacteria:

1. From a raw source water sampling point (prior to any existing water treatment systems and storage tanks) located as close to the water source as reasonably possible and prior to the location where the UV unit is proposed to be installed.
2. From a sampling point after each existing water treatment system (if applicable).
3. From a sampling point in the water distribution system that is farthest from the source(s) of supply.

Other Water Quality Parameters: Certain water quality characteristics of the water to be disinfected by the UV unit may impair the UV unit's ability to provide effective disinfection. To determine if the source water quality characteristics will be amenable to effective UV disinfection, a water sample should be collected from a raw source water sampling point. The raw water sampling point should be prior to any existing treatment systems and storage tanks and prior to the proposed location of the UV unit. The sample should be analyzed, at a minimum, for the parameters shown in Table 1 in addition to any other parameters required by the manufacturer. The test results should be below the maximum allowable limits as specified in Table 1 or those of the manufacturer. If water treatment equipment is

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currently installed on the water system, additional water samples should be collected after each individual piece of treatment equipment that the water passes through and analyzed, at a minimum, for the parameters shown in Table 1. All testing should be conducted within 30 days prior to seeking approval for installation of the UV unit. Each set of water quality test results should clearly indicate the location of the sampling point from which the sample was collected.

Table 1

Parameter	Maximum Allowable Limit
Iron	0.3 mg/L
Manganese	0.05 mg/L
Color	15 color units
Turbidity	1.0 NTU
Hardness	120 mg/L (as CaCO ₃)
Hydrogen Sulfide	Non-Detectable
Total Suspended Solids	10 mg/L
Iron Bacteria	None

UV units should not be considered effective for primary disinfection if the water quality entering the UV unit does not meet the maximum allowable limits specified in Table 1 or as required by the manufacturer. If necessary, a pretreatment system, or additional treatment equipment, to reduce the levels of these parameters to below the maximum allowable limits may be proposed for installation. However, until a DWS approved pretreatment system has been installed and demonstrated to be effective in reducing the levels of the parameters to below the maximum allowable limits, the use of a UV unit should not be considered an acceptable means of primary disinfection. As a result, PWS's seeking approval for UV units with pretreatment needs should recognize that if the approved pretreatment system does not adequately pretreat the source water, they may be required to propose additional pretreatment equipment, alternative pretreatment equipment, or an alternative means of primary disinfection.

Guidelines for Installation: The following guidelines should be followed when installing UV units. Figure 1 shows the typical installation recommendations for a single UV unit.

For single UV unit installations:

1. All water supplied to consumers should be continuously treated by the UV unit. No bypass lines should be installed around the UV unit for servicing/routine maintenance of the UV unit (i.e. sleeve cleaning, lamp replacement, etc.) unless the installation of a second approved UV unit is installed and operational on the bypass line.
2. A 5-micron pre-filter (or smaller if required by the manufacturer) should be installed on the supply line to the UV unit.

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3. Shut-off valves should be installed on the supply side and the discharge side of the pre-filter.
4. Shut-off valves should be installed on the supply side of the UV unit (no greater than 4 feet from the UV unit) and on the discharge side of the UV unit (no greater than 4 feet from the UV unit and prior to any consumer taps or branch lines).
5. A flushing port should be located on the discharge line of the UV unit prior to the discharge side shut-off valve described in item 4 above.
6. The UV unit should be installed in a manner to maintain flow and pressure requirements in the water distribution system. The flow rate entering the UV unit should not exceed the maximum flow rate specifications as recommended by the manufacturer to maintain the required dose. A flow meter should be installed on the supply line to the UV unit. Multiple identical UV units installed in parallel are allowed to maintain flow and pressure requirements of the distribution system if necessary.
7. The UV unit should be equipped with an audible and visual alarm that will alert a person in charge of the water system and UV unit when the intensity of the UV unit drops below the manufacturer's normal operating range. The alarms should be located in an area where an intensity failure will provide immediate notification to the person in charge of the water system and UV unit. If the UV unit will be installed in an unattended location (i.e. basement, utility room, etc.) a remote alarm should be installed in an area that is occupied by personnel familiar with the alarm and the procedure to report the alarm to the certified operator or person in charge of the water system and UV unit.
8. The UV unit should be installed on a designated electrical circuit and equipped with a solenoid operated automatic emergency water shut-off valve that will shut off the water supply to the UV unit in the event of a loss of power supply to the UV unit or a drop in dosage below the minimum required level of 40 mJ/cm². When power is not being supplied to the UV unit, the valve should be in a closed (fail-safe) position.
9. A flow or time delay mechanism wired in series with the well or service pump should be provided to permit a sufficient time for tube warm-up per manufacturer's recommendations before water flows from the unit upon startup.
10. At a minimum, smooth-nosed, chrome plated or stainless steel water sampling taps should be installed in the following locations to monitor source water quality and performance of the UV unit:
 - a. Raw water line of each water source
 - b. After each individual piece of pre-treatment equipment that the water passes through.
 - c. After the UV unit

These sampling taps should not be used for purposes other than the collection of water samples, should have the discharge end of the tap pointing in a downward direction, and should be in an easily accessible area with adequate clearance (minimum of 12 inches) below the tap for sampling containers.

11. UV units installed vertically should have the water outlet located at the top to allow the chamber to completely fill with water and maximize water exposure to the UV lamp. Similarly, UV units installed horizontally should have the water outlet directed upward. Manufacturer's installation

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guidelines should be followed in determining the correct orientation of installation for each particular UV unit.

Maintenance, Oversight, and Monitoring Recommendations:

1. Prior to performing any routine maintenance or repair activities (i.e. sleeve cleaning, lamp replacement, etc.) on the UV unit that would render the unit inoperable or ineffective for water disinfection purposes, the following procedure should be followed:
 - a. The water supply shut-off valves on the supply and discharge side of the UV unit should be closed.
 - b. Perform necessary maintenance/repair work on the UV unit in accordance with manufacturer's procedures.
 - c. Following maintenance/repair work ensure that the UV unit is operating and light intensity has stabilized to an effective level for disinfection purposes.
 - d. Open the water supply shut-off valve on the supply side of the UV unit.
 - e. Open the flushing port on the discharge side of the UV unit and flush water through the device to waste for a minimum of three minutes.
 - f. Close the flushing port.
 - g. Open the water supply shut-off valve on the discharge side of the UV unit and return water service to consumers.
2. Replacement parts including, at a minimum, one replacement lamp, one quartz sleeve, and one pre-filter should be available on-site at all times.
3. The pre-filter should be replaced with a new pre-filter at regular intervals as recommended by the manufacturer and no less than every three months.
4. UV lamps should be replaced at frequencies recommended by the manufacturer and no less than annually.
5. The UV unit should be inspected daily to ensure the unit is operating and the light intensity is within acceptable limits for effective disinfection. A log sheet should be maintained to record daily inspections. A minimum dose of 40 mJ/cm² should be maintained at all times. The following, at a minimum, should be recorded on the log sheet: daily checks of satisfactory bulb intensity including intensity readings if a bulb intensity meter is provided, dates of all UV lamp replacements, dates of all pre-filter replacements, routine maintenance procedures, repair services, and any alarms or malfunctions of the UV unit should also be recorded on the log sheet. Log sheets should be maintained on-site at the location of the UV unit installation and should be made available to the DWS upon request. Monthly summaries of daily satisfactory bulb intensity checks and readings (if a bulb intensity meter is provided) should be submitted to the DWS no later than nine days following the end of each month on a form prescribed by the DWS.
6. For seasonal water systems: UV units that are operated on a seasonal basis should be inspected and cleaned prior to use at the start of each operating season. All pre-filters should be replaced prior to start up of the water system if the UV unit has been shut down more than three months. The wells and water system should be disinfected with a chlorinating agent certified to NSF/ANSI Standard 60 prior to placing the water system back into operation for public use.

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Figure 1
Single UV unit installation

