PROJECT MANUAL

**PRE-BID SITE VISIT SCHEDULED**

**ON SEPTEMBER 10, 2026**
SEE ADVERTISEMENT FOR BIDS INSIDE

# PROJECT NO. 47477-P

# PLUMBING WORK

# RENOVATE ARMORY
# STATE ARMORY
# 2 QUINCY PLACE
# YONKERS, NY

**JULY 20, 2026**

KATHY HOCHUL
Governor

JEANETTE M. MOY
Commissioner

NEW YORK STATE | Office of General Services

**PROJECT NO. 47477-P**

**PLUMBING WORK**

**RENOVATE ARMORY**
**STATE ARMORY**
**2 QUINCY PLACE**
**YONKERS, NY**

**JULY 20, 2026**

**CLIENT: DIVISION OF MILITARY AND NAVAL AFFAIRS**

**PROJECT TEAM LEADER: KEVIN RENAGHAN, RA, LEED AP, PMP**


**PREPARED BY**
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| Affix Seal | Affix Seal | Affix Seal |
|---|---|---|
| STATE OF NEW YORK RAYMOND C. WONG 108677 LICENSED PROFESSIONAL ENGINEER | STATE OF NEW YORK DOUGLAS RAYMOND NEAU 079487 LICENSED PROFESSIONAL ENGINEER | |
| 09/30/2026 | 7/31/2026 | |
| Registration Expiration Date | Registration Expiration Date | Registration Expiration Date |

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A. The Contract Drawings, which accompany this Project Manual and form a part of the Contract Documents, are listed on the Title Sheet of the Drawings.

B. The drawings for related contracts are listed on the Title Sheet for reference only. Examine the drawings for related contracts to ascertain the relationship of the Work to the related contracts.

**END OF LIST**

**ADVERTISEMENT FOR BIDS**

Sealed bids for Project Nos. 47477-C, 47477-H, 47477-P and 47477-E, comprising separate contracts for Construction Work, HVAC Work, Plumbing Work, and Electrical Work, Renovate Armory, State Armory, 2 Quincy Place, Yonkers (Westchester County), NY, will be received by the Office of General Services (OGS), Design & Construction Group (D&C), Division of Contract Management, 35th Fl., Corning Tower, Empire State Plaza, Albany, NY 12242, on behalf of the Division of Military and Naval Affairs, until 2:00 p.m. on Wednesday, September 23, 2026, when they will be publicly opened and read. Each bid must be prepared and submitted in accordance with the Instructions to Bidders and must be accompanied by a bid security (i.e. certified check, bank check, or bid bond in the amount of $270,900 for C, $80,600 for H, $53,400 for P, and $81,600 for E).

All successful bidders will be required to furnish a Performance Bond and a Labor and Material Bond pursuant to Sections 136 and 137 of the State Finance Law, each for 100% of the amount of the Contract estimated to be between $10,000,000 and $15,000,000 for C, between $2,000,000 and $3,000,000 for H, between $1,000,000 and $2,000,000 for P, and between $2,000,000 and $3,000,000 for E.

Pursuant to State Finance Law §§139-j and 139-k, this solicitation includes and imposes certain restrictions on communications between OGS D&C and a bidder during the procurement process. A bidder is restricted from making contacts from the earliest posting on the OGS website, in a newspaper of general circulation, or in the Contract Reporter, of written notice, advertisement or solicitation of offers, through final award and approval of the contract by OGS D&C and the Office of the State Comptroller ("Restricted Period") to other than designated staff, unless it is a contact that is included among certain statutory exceptions set forth in State Finance Law §139-j(3)(a). Designated staff are Megan Whaley, Catherine Skaczkowski, Jessica Hoffman, and Pierre Alric in the Division of Contract Management, telephone (518) 474-0203, fax (518) 473-7862. For inquires related specifically to Minority and Women-Owned Business Enterprises (MWBE) and to Service-Disabled Veteran Owned Businesses (SDVOB) provisions of this procurement, the designated contact is Tryphina Ramsey, telephone (518) 486-9284 or email **OGS.sm.MWBE@ogs.ny.gov**. OGS D&C employees are also required to obtain certain information when contacted during the restricted period and to make a determination of the responsibility of the bidder pursuant to these two statutes. Certain findings of non-responsibility can result in rejection for contract award and in the event of two findings within a four-year period, the bidder is debarred from obtaining governmental Procurement Contracts. Bidders responding to this Advertisement must familiarize themselves with the State Finance Law requirements and will be expected to affirm that they understand and agree to comply on the bid form. Further information about these requirements can be found within the project manual or at: **https://ogs.ny.gov/ACPL/**

Pursuant to Public Buildings Law § 8(6), effective January 11, 2020, for any projects where the project design commenced on or after January 1, 2020 and for any contracts over $5,000 for the work of construction, reconstruction, alteration, repair, or improvement of any State building, a responsible and reliable NYS-certified Minority or Women-Owned Business Enterprise that submits a bid within ten percent of the lowest bid will be deemed the apparent low bidder provided that the bid is $1,737,918 or less, adjusted annually for inflation as of March 1, 2026. If more than one responsible and reliable MWBE firm meets these requirements, the MWBE firm with the lowest bid will be deemed the apparent low bidder.

___Project commenced design before January 1, 2020. Not subject to provision.
XX Project commenced design on or after January 1, 2020. Subject to provision.

The substantial completion date for this project is 631 days after the Agreement is approved by the Comptroller.

As a condition of award, within five (5) days of receipt of the proposed Contract Agreement from the State, the apparent low bidder shall return the Contract Agreement to the State, properly executed, along with the Bonds if required by said Agreement. Low bidders who cannot meet these provisions may be subject to disqualification and forfeiture of the bid security.

The only time prospective bidders will be allowed to visit the job site to take field measurements and examine existing conditions of the project area will be at 10:00 a.m. on September 10, 2026, at State Armory, 2 Quincy Place, Yonkers, NY. Prospective bidders are urged, but not mandated, to visit the site at this time. Prospective bidders or their representatives attending the pre-bid site visit will not be admitted on facility grounds without proper photo identification. Note that parking restrictions and security provisions will apply, and all vehicles will be subject to search. Refer to Document 002218 for any additional requirements for attendance at the pre-bid site visit.

Phone the office of Allison Krebs-Fogel, (914-941-1122) a minimum of 24 hours in advance of the date to provide the names of those who will attend the pre-bid site visit. Only contractors that schedule a visit at least 24 hours in advance will be allowed to participate in the pre-bid site visit.

Pursuant to New York State Executive Law Article 15-A and the rules and regulations promulgated thereunder, OGS is required to promote opportunities for the maximum feasible participation of New York State-certified Minority and Women-owned Business Enterprises ("MWBEs") and the employment of minority group members and women in the performance of OGS contracts. All bidders are expected to cooperate in implementing this policy. OGS hereby establishes an overall goal of 30% for MWBE participation, 15% for Minority-Owned Business Enterprises ("MBE") participation and 15% for Women-Owned Business Enterprises ("WBE") participation (based on the current availability of qualified MBEs and WBEs). The total contract goal can be obtained by utilizing any combination of MBE and /or WBE participation for subcontracting and supplies acquired under this Contract. Trades with 0% goals are encouraged to make "good faith efforts" to promote and assist in the participation of MWBEs on the Contract for the provision of services and materials.

Article 3 of the Veteran's Services Law provides for more meaningful participation in public procurement by certified Service-Disabled Veteran-Owned Businesses ("SDVOBs"). Bidders are expected to consider SDVOBs in the fulfillment of the requirements of the Contract. Such participation may be as subcontractors or suppliers, as protégés, or in other partnering or supporting roles. OGS hereby establishes overall goals for SDVOBs' participation under this contract as follows: 6% for the C trade contractor, 3% for the E trade contractor, 3% for the H trade contractor, and 3% for the P trade contractor, based on the current availability of qualified SDVOBs. Trades with 0% goals are encouraged to make "good faith efforts" to promote and assist in the participation of SDVOBs on the Contract for the provision of services and materials.

The Office of General Services reserves the right to reject any or all bids.

Downloading Bidding and Contract Documents for this project, along with the submission of Bidder Questions and Electronic Bidding are available through OGS Design & Construction's electronic bidding service, Bid Express at the following link: **http://www.bidexpress.com**

For questions about registration or Bid Express technical issues, e-mail **support@bidexpress.com**, or call Bid Express support (888) 352-2439.

For all other questions, email **DCPlans@ogs.ny.gov**, or call (518) 474-0203.

For additional information on this project, use the link below and then click on the project number:

**https://online.ogs.ny.gov/dnc/contractorConsultant/esb/ESBPlansAvailableIndex.asp.**

OGS Design & Construction Group
**END OF INFORMATION**

**DOCUMENT 002113**

**INSTRUCTIONS TO BIDDERS**

## 1. EXAMINATION OF DOCUMENTS

1.1. Carefully examine and be familiar with the Bidding and Contract Documents.

1.2. Examine information concerning subsurface or other latent physical conditions. It is presented in good faith but is not intended as a substitute for personal investigation, interpretations, or judgment of the Contractor.

## 2. VISIT TO THE SITE

2.1. For projects that include Document 002218, visit the Site of the Work prior to submitting your bid. Refer to the Advertisement for Bids for any special instructions.

2.2. Become familiar with restrictions and regulations established by the facility. Existing restrictions and regulations will not be considered as grounds for any additional cost over the Contract sum.

2.3. Assume the risk of encountering any subsurface or other latent physical condition that can be reasonably anticipated on the basis of documentary information provided by the State and from inspection and examination of the Site.

2.4. Interpretations of contract documents by facility personnel are not binding.

## 3. DESIGNATED, PERMISSIBLE, IMPERMISSIBLE CONTACTS AND QUESTIONS

3.1. The designated contacts during the restricted period for this procurement will be:

- Megan Whaley, Contract Awards Unit, telephone – (518) 474-0203, fax – (518) 473-7862
- Catherine Skaczkowski, Contract Awards Unit, telephone – (518) 474-0203, fax – (518) 473-7862
- Jessica Hoffman, Assistant Director, Contract Management, telephone – (518) 474-0203
- Pierre Alric, Director, Contract Management, telephone – (518) 474-0201
- For inquires related specifically to Minority and Women-Owned Business Enterprises (MWBE) and to Service-Disabled Veteran Owned Businesses (SDVOB) provisions of this procurement, the designated contact is Tryphina Ramsey, telephone (518) 486-9284 or email **OGS.sm.MWBE@ogs.ny.gov**.

3.2. State Finance Law §139-j recognizes a series of permissible contacts that can go to other than the designated contacts, as follows:

3.2.1. The submission of written proposals in response to a request for proposals, invitation for bids or any other method for soliciting a response from offerers intending to result in a procurement contract.

3.2.2. The submission of written questions to a designated contact set forth in a request for proposals, or invitation for bids, or any other method for soliciting a response from offerers intending to result in a procurement contract, when all written questions and responses are to be disseminated to all offerers who have expressed an interest in the request for proposals, or invitation for bids, or any other method for soliciting a response from offerers intending to result in a procurement contract.

3.2.3. Participation in a conference provided for in a request for proposals, invitation for bids, or any other method for soliciting a response from offerers intending to result in the procurement contract.

3.2.4. Complaints by an offerer regarding the failure of the person or persons designated by the procuring governmental entity pursuant to this section to respond in a timely manner to authorized offerer contacts made in writing to the office of general counsel of the procuring governmental entity, provided that any such written complaints shall become a part of the procurement record.

3.2.5. Offerers who have been tentatively awarded a contract and are engaged in communication with a governmental entity solely for the purpose of negotiating the terms of the procurement contract after being notified of tentative award.

3.2.6. Contacts between designated governmental staff of the procuring governmental entity and an offerer to request the review of a procurement contract award.

3.2.7. Contacts by offerers in protests, appeals or other review proceedings (including the apparent successful bidder or proposer and his or her representatives) before the governmental entity conducting the procurement seeking a final administrative determination, or in a subsequent judicial proceeding.

3.2.8. Complaints of alleged improper conduct in a governmental procurement to the attorney general, inspector general, district attorney, or court of competent jurisdiction.

3.2.9. Written protests, appeals, or complaints to the New York State Office of the State Comptroller (OSC) during the process of contract approval, where OSC's approval is required by law, and where such communications and any response thereto are made in writing and shall be entered in the procurement record pursuant to §163 of the State Finance Law.

3.2.10. Complaints of alleged improper conduct in a governmental procurement conducted by a municipal agency or local legislative body to OSC's office.

3.2.11. Permissible Contacts are only with the procuring agency unless specifically excepted.

3.3. Impermissible contacts include those that a reasonable person would infer are intended to influence a governmental procurement and occur during the restricted period of a governmental procurement between the offerer and any member, officer or employee of any governmental entity; provided, however, that nothing in this section shall be deemed to prohibit an offerer from communicating with a member of the state legislature or legislative staff about a governmental procurement. Contacting a person or entity other than the designated contact person during the restricted period, when such contact does not fall within one of the exemptions, is also an impermissible contact.

Direct all questions regarding the intent or meaning of the drawings or specifications to the Office of General Services (OGS) through OGS Design & Construction's Electronic Document and Bidding service, Bid Express®. Registration along with downloading and electronic bidding can be accessed at the following website: **http://www.bidexpress.com.**

Click on "User Login" and enter your username and password or "Sign Up" if you do not have an account. After logging in, select "Solicitations" then enter the project number or the name of the project. Scroll down to the "Q & A" section and select "Ask a Question".

All responses to appropriate pre-bid inquiries will be communicated via the OGS website and Bid Express. Those inquiries resulting in clarification and or changes to the bid documents will be communicated by Addenda to all persons who have obtained drawings and specifications.

3.4. Pre-bid inquiries answered by means other than Addenda will not be binding.

## 4. PREPARATION OF BIDS

4.1. **For electronic bids**: Prepare and submit bid using Bid Express®.

4.1.1. Prepare each bid on the official form furnished by the State within the Bid Express® website. Fill in all blank spaces. An incomplete entry may disqualify the bid in its entirety. No post bid meetings will be afforded to any bidder to explain or clarify an incomplete bid or entry omission(s).

4.1.2. Bidders must be registered with Bid Express® in advance. Bidders not previously registered with Bid Express® must complete a one-time registration for a user account. There is no cost to register, to view/download bid documents, or to submit a bid. Vendors can select 'Pay per solicitation (non-member)' when registering.

4.1.3. Bid Security is required in accordance with the BID SECURITY INFORMATION section within this document. Bidders must be registered with a Bid Express® approved bonding service in advance. Bidders

not already registered must register with a Bid Express® approved bonding service, and shall refer to the instructions contained in the BID SECURITY INFORMATION section within this document.

4.1.4. Bidders must establish an Infotech® Digital ID in advance. The Infotech® Digital ID application process may take up to seven business days to complete. Refer to http://www.bidexpress.com for guidance on the application for and installation of Digital IDs. The Digital ID is an electronic tool that allows users to digitally sign bids, contracts, and forms. Digital IDs are used as part of a secure method of maintaining confidentiality and identity verification within the Bid Express® service.

4.2. **For paper bids**: Prepare each bid on the official form furnished by the State.

4.2.1. Make no erasures, cross-outs, whiteouts, write-overs, obliterations, or changes of any kind in the Bid Form phraseology, in the entry of unit prices, or anywhere on the Bid Form.

4.2.2. Fill in all blank spaces legibly. An illegible entry may disqualify the bid in its entirety. If a mistake is made, use a new Bid Form. No post bid meetings will be afforded to any bidder to explain or clarify illegible or changed entries.

4.2.3. Sign the Bid Form in the space provided. An officer or a principal of a corporation or a partnership signing for the bidder shall print or type the legal name of the person, partnership, or corporation on the line provided and place his/her signature after "SIGN BID HERE". The same procedure shall apply to the bid of joint venture by two or more firms, except that the signature and title of an officer or a principal of each member firm of the joint venture shall be required. All signatures must be original. Mechanically reproduced signatures, stamps, or copies are not acceptable. Submitted Bid Forms that do not conform to these requirements will be disqualified.

4.3. For paper or electronic bids, if the Project Manual contains Section 012300 - Alternates, indicate the amounts to be added to or deducted from the base bid in the spaces provided on the Bid Form. If the Work is to be performed at no change in cost, indicate "0". Any bid which fails to indicate an amount for each alternate will be held to be informal and may be rejected.

4.4. For paper or electronic bids, note in the space designated on the Bid Form, each Addenda by numbers, which have been issued.

4.4.1. <u>For paper bids</u>: If no Addenda have been issued, insert the word "NONE" in the space designated on the Bid Form.

4.5. For paper or electronic bids, all contractors submitting bids on public work projects are required to register with the New York State Department of Labor (NYSDOL) under Labor Law Section 220-i. The registration number must be entered in the space provided on the Bid Form. A complete and accurate registration number must be entered in the space provided on the Bid Form. Failure to possess an active and verifiable registration at the time of bid will result in disqualification of the bid.

4.6. All bidders must complete a form <u>DCA-3</u> **– *Offerer Disclosure of Prior Non-Responsibility Determinations*** and submit it with their Bid.

4.6.1. <u>For electronic bids</u>: Complete and submit form DCA-3 within the Bid Express® website. Fill in all blank spaces.

4.6.2. <u>For paper bids</u>: Complete paper form DCA-3 and include it with the Bid Form. Fill in all blank spaces.

4.7. All bids, regardless of dollar value, must include the cost of Labor and Material and Performance Bonds.

## 5. BID SECURITY INFORMATION

5.1. Bid security is required as a guarantee that the bidder will enter into the Contract and furnish a satisfactory Performance Bond and Labor and Material Bond within the time specified on the Bid Form. Submit bid security in the amount indicated in the Advertisement for Bids in one of the following forms:

5.1.1. Certified check or bank check drawn upon a legally incorporated bank or trust company (payable to the Office of General Services).

5.1.2. Bid Bond on OGS Form 004313 to be issued by a Surety licensed in the State of New York.

5.1.2.1. **For electronic bids**: Electronic bid bond furnished by a Bid Express® approved bonding service is required for an Electronic Bid. Vendors must be registered with a Bid Express® approved bonding service. Refer to http://www.bidexpress.com for guidance and registration information. Vendors not already registered must complete a one-time registration with a Bid Express® approved bonding service. At the time of this publication, the Bid Express® approved bonding services are Tinubu at https://www.tinubu.com, or Surety2000 at https://surety2000.com. Allow sufficient time for account registration and bond processing prior to the bid due date noted in the Advertisement for Bids.

5.1.2.2. **For paper bids:** Sign the bid bond in the space provided. An officer or a principal of a corporation or a partnership signing for the bidder shall print or type the legal name of the person, partnership, or corporation on the line provided and place his/her signature above "Principal". The same procedure shall apply to the bid security of a joint venture by two or more firms, except that the signature and title of an officer or a principal of each member firm of the joint venture shall be required. The same procedure shall apply to the signature for the Attorney-in-Fact. All signatures must be original. Electronic, mechanically-reproduced or stamped signatures, or copies, are not acceptable for either signature. Submitted Bid Security that does not conform to these requirements will be disqualified

5.2. Upon submission of a certified check or bank check, the bid security of the successful bidder will be returned (check issued by OSC) pending acceptance of the required bonds and the execution of Contract. The second low bidder's bid security will be returned after the successful bidder executes the Contract or with the submission of an approved Substitute Bid Bond on the Design and Construction form. The bid security of all other bidders with a bid security in the form of checks will be returned as soon as possible after the apparent low bidder has been determined.

5.3. Bid Bonds submitted as bid security will not be automatically returned to the bidder. Firms requesting to have bonds returned may do so in writing provided they are not the first or second low bidder prior to award. Only those requests made in writing, directed to the Contract Awards Unit, shall be considered for return.

## 6. SUBMISSION OF BID

6.1. Do not submit both electronic and paper bids. If both an electronic bid from Bid Express® and a paper bid are received from the same contractor, the electronic bid from Bid Express® will prevail, and the paper bid(s) will be disqualified.

6.2. Submit Bid Form, Bid Security and Form DCA-3 – ***Offerer Disclosure of Prior Non-Responsibility Determinations.***

6.2.1. **For electronic bids**: Complete and submit within Bid Express®.

6.2.1.1. Within Bid Express®, select the procurement from the 'Solicitations' tab and click 'Select For Bidding'. Fill in all blank spaces.

6.2.1.2. In accordance with the BID SECURITY INFORMATION section contained within this document, coordinate with a Surety Agent to obtain a Bond ID from one of the Bid Express® approved bonding services. Refer to the instructions in the BID SECURITY INFORMATION section of this document. Complete the Bid Bond information section within Bid Express® and click 'Verify Bid Bond'. Failure to submit a valid Bond ID from an approved electronic bonding service for a bond of the specified value may result in automatic bid disqualification.

6.2.1.3. Click 'Check Bid' and resolve any errors. Click 'Submit Bid'. Sign the electronic bid form using a Bid Express® approved digital ID by clicking 'Submit Bid'.

6.2.2. **For paper bids:** Provide bid in a sealed envelope addressed to:

**NYS Office of General Services – Design & Construction Group**
**Division of Contract Management, Contract Awards Unit**
**35th Floor, Corning Tower**
**Albany, NY 12242**

Exterior of sealed envelope shall include the words "SEALED BID ENCLOSED", Project Number and Trade Designation of Bid, Bid Due Date, Company Name, Address and Federal ID Number.

6.2.3. Telephone, email, fax, or electronic bids other than electronic bids submitted within Bid Express® will not be accepted.

6.3. All bids must be received before the time specified, and at the place designated for the receipt of bids.

6.4. **Late Bids**:

6.4.1. Electronic bids cannot be accepted after the due date and time.

6.4.2. Paper bids received after the due date and time will be returned unopened with notification of the reason for its refusal.

6.4.3. A late paper bid will be considered if: (1) its arrival at the place designated after the time specified can be shown by documentary or other proofs to be due to mishandling by OGS and (2) that absent such mishandling, the bid would have arrived timely. Delays in the mail or any other means of transmittal, including couriers or agents of the State, other than employees of OGS will not suffice to excuse late arrival of the bid.

## 7. MODIFICATION OF BID

7.1. Bid Modifications By Amendment:

7.1.1. **For Modification to Electronic Bids:** Electronic bids may be modified on Bid Express® up to the deadline for receipt of bids. To modify your bid, access your bid in Bid Express®, modify applicable component(s), select Submit Bid to update the bid. Refer to the Submission Status to confirm the Last Submitted date and time. Only the submitted bid will be considered.

7.1.2. **For Modification to Paper Bids:** Modifications by amendment will only be considered on condition that the amendment arrives before the time specified and at the place designated for receipt of bids, and

7.1.2.1. The amendment is in writing and executed by a principal of the bidder firm, and

7.1.2.2. The bid, as amended, conforms in all respects with the Contract Documents. Bidders may mail or fax their bid modifications. Fax bid modifications to (518) 473-7862. Bidders may use a bid modification to acknowledge addenda and/or change the bid amount. Bid modifications received by fax must be on company letterhead and signed by a principal of the bidder firm. DO NOT use the OGS Bid Form to submit bid modifications by fax. Indicate any amounts to be added to or deducted from any part of the bid amount with the words "ADD" or "DEDUCT" next to the amount. The only amounts listed on a faxed bid modification should be the amounts to be added or deducted. **DO NOT expose the new bid amount on the faxed bid modification.** If the bid amount is shown on the faxed bid modification, or otherwise exposed at any time before the bid opening, the bid will be disqualified.

## 8. WITHDRAWAL OF BID

8.1. A bid may be withdrawn at any time prior to the time specified for receipt of bids.

8.1.1. For electronic bids, bidders can withdraw their bids on Bid Express® up to the time specified for receipt of bids.

8.1.2. For paper bids, should a bidder decide to withdraw its bid before the bid opening, the request must be prepared on company letterhead, signed by a principal of the bidder firm, and faxed to (518) 473-7862, or hand-delivered or mailed to the Contract Awards Unit at the place designated for receipt of bids. OGS will

e-mail an acknowledgment of the withdrawal request that includes an indication that the unopened bid will be returned. Should the withdrawal request be in error, the bidder must call the Contract Awards Unit at (518) 474-0203 immediately. The unopened bid will be returned by mail to the bidder.

8.2. Not more than 7 calendar days after the bid opening or a scheduled pre-award meeting, whichever comes later, a low bidder may request the withdrawal of its bid based on a mistake. The request must be submitted via certified or registered mail to the address in Paragraph 6.2.2 of these Instructions to Bidders. The Contracting Officer may conduct or have conducted on his/her behalf a fact-finding proceeding to develop information concerning the request for withdrawal. A request for withdrawal of a bid made after the specified number of days allowed shall result in forfeiture of the bid security.

8.3. Following a timely request for withdrawal of a bid, the bid security will be returned if the bidder establishes by credible evidence, including original documents when requested, the following:

8.3.1. An error, clerical as opposed to judgmental in nature and verifiable by written evidence, occurred in the computation of the bid,

8.3.2. The error constitutes either an unintentional and substantial computational error or an unintentional omission of a substantial quantity of labor and/or material from the final bid computation,

8.3.3. The absence of gross negligence in the preparation of the bid. For the purposes of this subparagraph, gross negligence may include:

i) the apparent failure of a bidder to account for two or more categories (divisions) of work,

ii) the use of multiple erroneous quotations from subcontractors or suppliers,

iii) submission to the Contracting Officer of a bid withdrawal request within the preceding six (6) months.

8.4. If the bidder fails to meet its burden of proof, the request to withdraw without penalty shall be denied and its bid security will be forfeited and become the property of the State. The decision of the Contracting Officer shall be final and conclusive.

8.5. Once a request to withdraw is made, the bidder is ineligible for award. The Contracting Officer shall continue to progress the award process considering only the remaining bids.

## 9. DISQUALIFICATION

9.1. Any bid which fails to conform to the requirements of the Bidding and Contract Documents may be rejected.

9.2. The Commissioner may waive any informality or afford the bidder an opportunity to remedy any deficiency resulting from a minor informality or irregularity.

9.3. The State reserves the right to disqualify bidders, before or after bid opening, upon evidence of collusion with third parties or other illegal practices upon the part of the bidder.

9.4. Bidders may review the list of common Bid Informalities and Bid Disqualifications at:

https://online.ogs.ny.gov/dnc/contractorConsultant/esb/informalitylist.asp

## 10. GOVERNING LAWS AND REGULATIONS ADMINISTERED BY OTHER DEPARTMENTS

10.1. **Taxes**: All taxes pertaining to the Work must be paid. Address inquiries regarding taxes to the Tax Collecting Agency. For information regarding sales and use taxes contact the Sales Tax Bureau, Department of Taxation and Finance.

10.2. While all applicable laws, rules and regulations of the State of New York are incorporated by reference in this Contract, take special note of the provisions of the Labor Law and Industrial Code Rule 23 relative to the safety of workers and of persons lawfully occupying or using the premises. Address inquiries regarding labor law provisions to the New York State Department of Labor.

10.3. **Anti-Discrimination Clause**: Discrimination against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability, or marital status is prohibited.

## 11. OPENING OF BIDS

Bids will be opened as announced in the Advertisement for Bids.

## 12. DETERMINATION OF CONTRACTOR'S RESPONSIBILITY

12.1. The State Public Buildings Law requires that contracts for public work in the State of New York be awarded to the lowest responsible and reliable bidders as will best promote the public interest.

12.2. Each apparent low bidder, and each proposed subcontractor (for subcontract work of $100,000 or more) will be required to submit form CCA-2 - ***New York State Vendor Responsibility Questionnaire For Profit Construction*** prior to contract award or subcontractor approval. OGS reserves the right to request CCA-2 forms from proposed subcontractors for work of less than $100,000 if it is determined to be in the best interest of the State. Submission of these forms will assist the State in determining the responsibility and reliability of the vendor.

OGS recommends that vendors file the required CCA-2 form online via the New York State VendRep System. Use of this system requires that the vendor have a New York State Vendor Identification Number (Vendor ID). Please note that the Vendor ID is not the Taxpayer ID number.

If bidders do not already have a Vendor ID, they are encouraged to obtain one ***in advance of*** the bid opening.

**To obtain a Vendor ID, contact the OSC Help Desk at 866-370-4672 or 518-408-4672, or by e-mail at ITServiceDesk@osc.state.ny.us**.

To enroll in and use the VendRep System, see the **VendRep System** page at:

**http://www.osc.state.ny.us./vendrep/info_vrsystem.htm**

If you already have a User ID and password, go directly to the VendRep System online at:

**https://www.osc.state.ny.us/state-vendors/vendrep/file-your-vendor-responsibility-questionnaire**

For direct VendRep System user assistance, contact the OSC Help Desk; the help desk phone numbers and e-mail address are shown above.

Vendors opting to file a paper questionnaire can obtain the appropriate questionnaire from the VendRep website at **http://www.osc.state.ny.us/vendrep/forms_vendor.htm** or may telephone the OSC Help Desk.

12.3. After the bids are opened, the apparent low bidder shall complete and file the CCA-2 within 5 days. Vendors using the online system may certify (or recertify) and file the CCA-2 electronically via the VendRep System: **https://www.osc.state.ny.us/state-vendors/vendrep/file-your-vendor-responsibility-questionnaire**

12.4. It is recommended that all bidders become familiar in advance with all of the requirements of the CCA-2. As mentioned in 12.2, bidders who do not have a Vendor ID are encouraged to obtain one in advance of the bid opening.

12.5. All bidders must submit a completed form DCA-3 - ***Offerer Disclosure of Prior Non-Responsibility Determinations*** along with their Bid Form.

12.6. The determination of responsibility will include a review to ensure the Contractor has not knowingly and willfully violated the provisions of the Procurement Lobby Law or New York State Finance Law §139-j and §139-k.

12.7. New York State Finance Law §139-k (2) obligates a Governmental Entity to obtain specific information regarding prior non-responsibility determinations. This information must be collected in addition to the information that is separately obtained pursuant to State Finance Law §163(9). In accordance with State Finance Law §139-k, a Contractor must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law §139-j or (b) the intentional provision of false or incomplete information to a Governmental Entity.

12.8. As part of its responsibility determination, State Finance Law §139-k(3) mandates consideration of whether a Contractor fails to timely disclose accurate or complete information regarding the above non-responsibility

determination. In accordance with law, no procurement contract shall be awarded to any Contractor that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the Procurement Contract to the Offerer is necessary to protect public property or public health safety, and that the Offerer is the only source capable of supplying the required Article of Procurement within the necessary time frame.

## 13. AWARD OF CONTRACT

13.1. The Contract may be awarded to the lowest responsible and reliable bidder as will best promote the public interest.

13.2. If alternates are included in the bidding documents, the State reserves the right to accept or reject any or all alternates. The State shall determine the lowest bid by adding to or deducting, from the Base Bid Amount of the bidders, the additive or deductive alternates, if any, that the State elects to accept after the opening of the bids. Alternates will be accepted in the order they are set forth in the contract documents.

13.3. The State reserves the right to reject any or all bids, and advertise for new bids, if in its opinion the best interest of the State will thereby be promoted. In the event that all bids are rejected, each bidder will be so notified.

13.4. A bidder may withdraw its bid if no award is made within forty-five (45) days after the receipt of bids. A written notice must be submitted via certified or registered mail to the address in Paragraph 6.2.2 of these Instructions to Bidders prior to approval of the contract by OSC. The notice must clearly state that the withdrawal is based on the fact that the contract was not awarded within 45 days after the receipt of bids.

13.5. Pursuant to Public Buildings Law § 8(6), effective January 11, 2020, for any projects where the project design commenced on or after January 1, 2020 and for any contracts over $5,000 for the work of construction, reconstruction, alteration, repair, or improvement of any State building, a responsible and reliable NYS-certified Minority or Women-Owned Business Enterprise ("MWBE") that submits a bid within ten percent of the lowest bid will be deemed the apparent low bidder provided that the MWBE bid is $1,737,918 or less, adjusted annually for inflation as of March 1, 2026. If more than one responsible or reliable NYS-certified MWBE firm meets these requirements, the MWBE firm with the lowest bid will be deemed the apparent low bidder. Refer to the Advertisement for Bids for applicability of projects subject to this criteria.

## 14. MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES

14.1. Pursuant to New York State Executive Law Article 15-A and the rules and regulations promulgated thereunder, OGS is required to promote opportunities for the maximum feasible participation of NYS-certified Minority- and Women-owned Business Enterprises and the employment of minority group members and women in the performance of OGS contracts.

14.2. Information on the availability of subcontractors and suppliers for this project may be accessed by first using the following website link:

**https://online.ogs.ny.gov/dnc/contractorConsultant/esb/esbplansavailableindex.asp**

From this web page, first click on the project number link, then on Interested Subcontractors and Suppliers, and follow the prompts. A list of all interested vendors will be provided with their contact information, MWBE and SDVOB status', and construction specialties.

14.3. Other information on MWBEs, including a directory of MWBE's, is available from:

**NYS Empire State Development**
**Minority and Women's Business Development Division**
**30 South Pearl Street**
**Albany, NY 12245**
**Telephone: (518) 292-5252**
**Website: https://esd.ny.gov/doing-business-ny/mwbe**

## 15. SURETY BOND

If required, the Contractor shall furnish Performance and Payment Bonds in an amount equal to one hundred percent (100%) of the total Contract price as security for the faithful performance of this Contract, and for the payment of all persons performing labor or furnishing materials in connection with this contract. These bonds are to be executed on the State Comptroller's form and the surety company must be licensed in the State of New York, have a Best Rating of A- or better and appear on the most recent published Department of the Treasury's Listing of Approved Sureties (Department Circular *570*) at the time of filing the bonds.

## 16. VENDOR PROTEST POLICY

It is the policy of OGS to provide all vendors, prospective bidders, bidders, suppliers and contractors with an opportunity to resolve complaints or inquiries related to bid solicitations, contract awards, or other associated contract award actions. OGS encourages vendors to seek resolution of complaints related to bid solicitations, contract awards, or other associated actions through consultation with the agency designated contact(s). All such complaints will be given impartial and timely consideration. Vendors may also file formal written protests. A copy of the Design and Construction Vendor Protest Policy and Procedures may be obtained by contacting the designated contact or by visiting the OGS website at:

**https://ogs.ny.gov/design-construction/vendor-protest-policy-procedures**

## 17. POLICY ON TIED BIDS

A tie-bid is defined as an instance where bids are received from two or more bidders who are the apparent low responsive and reliable bidders with identical offers, or who are MWBEs with identical offers with bids of $1,737,918 or less and whose bids are within ten percent of the lowest bid. A tie-bid does not exist when an apparent low bidder has an identical offer to an MWBE, as the MWBE is deemed the apparent low bidder pursuant to Public Buildings Law § 8(6). It is the policy of OGS to settle the outcome of tie-bids by either drawing a name from a hat or flipping a coin within 24 hours of the bid opening. All affected firms will be notified of the tie and the time and place of the resolution of the tie, and shall be invited to witness the outcome. Attendance is not mandatory. The drawing/flip will be held at OGS, Contract Awards Unit, 35th Floor, Corning Tower, Albany, New York. Two impartial witnesses will be provided and shall be present. All attendees will acknowledge the results of the tie-breaker on the bid tabulation sheet. All firms affected by the tied bids will be notified of the results. The results pursuant to this provision shall be considered final.

## 18. WORKERS' COMPENSATION INSURANCE AND DISABILITY BENEFITS REQUIREMENTS

Workers' Compensation Law (WCL) §57 & §220 requires the heads of all municipal and state entities to ensure that businesses applying for permits, licenses or contracts provide proof that they have appropriate workers' compensation and disability benefits insurance coverage. These requirements apply to both original contracts and renewals, whether the governmental agency is having the work done or is simply issuing the permit, license or contract. Failure to provide proof of such coverage or a legal exemption will result in a rejection of the vendor's bid or renewal.

18.1. **Proof of Compliance with Workers' Compensation Coverage Requirements**: In order to provide proof of compliance with the requirements of the Workers' Compensation Law pertaining to workers' compensation coverage, a contractor shall: (1) obtain such coverage from an insurance carrier; or (2) be a Workers' Compensation Board-approved self-insured employer or participate in an authorized self-insurance plan; or (3) be legally exempt from obtaining Workers' Compensation insurance coverage.

An ACORD 25 form is **NOT** acceptable as proof of workers' compensation coverage.

A Contractor seeking to enter into a contract with the State of New York **MUST** provide **ONE** of the following forms to OGS upon request, prior to award:

18.1.1. CE-200, ***Certificate of Attestation of Exemption from NYS Workers' Compensation and/or Disability Benefits Coverage,*** which is available on the Workers' Compensation Board's website, www.wcb.ny.gov, under the heading "Forms"; **OR**

18.1.2. C-105.2 – ***Certificate of Workers' Compensation Insurance*** (the contractor's insurance carrier will send this form to OGS upon request); contractors insured through the New York State Insurance Fund should use their version of the form, the U-26.3; **OR**

18.1.3. SI-12 – ***Certificate of Workers Compensation Self-Insurance*** (the contractor should call the Workers' Compensation Board's Self-Insurance Office at 518 402-0247), **OR** GSI-105.2 – ***Certificate of Participation in Workers' Compensation Group Self-Insurance*** (the contractor's Group Self-Insurance Administrator will send this form to OGS upon request).

18.2. Proof of Compliance with Disability Benefits Coverage Requirements: In order to provide proof of compliance with the requirements of the Workers' Compensation Law pertaining to disability benefits, a contractor shall: (1) obtain such coverage from an insurance carrier; or (2) be a Board-approved self-insured employer; or (3) be legally exempt from obtaining disability benefits coverage.

An ACORD 25 form is NOT acceptable as proof of disability benefits coverage.

A Contractor seeking to enter into a contract with the State of New York **MUST** provide **ONE** of the following forms to OGS upon request, prior to award:

18.2.1. CE-200 – ***Certificate of Attestation of Exemption from NYS Workers' Compensation and/or Disability Benefits Coverage,*** which is available on the Workers' Compensation Board's website**,** **www.wcb.ny.gov**, under the heading "Forms"; **OR**

18.2.2. DB-120.1 – ***Certificate of Disability Benefits Insurance*** (the contractor's insurance agent, broker or carrier will send this form to OGS upon request); **OR**

18.2.3. DB-155 – ***Certificate of Disability Benefits Self Insurance*** (the contractor should call the Workers' Compensation Board's Self-Insurance Office at 518 402-0247).

18.3. All of the above-referenced forms, except the CE-200, SI-12 and DB-155, must show the following as the Entity Requesting Proof of Coverage (entity being listed as the Certificate Holder):

**NYS Office of General Services – Design & Construction Group**
**Division of Contract Management**
**35th Floor, Corning Tower, GNARESP**
**Albany, NY 12242**

## 19. ELECTRONIC CONTRACTOR PAYMENTS (ECP)

The ECP Program is initiated with an Electronic Contractor Payments (ECP) Certification Form that is forwarded to the contractor with the project agreement and bond forms. This form must be completed, executed and returned with the executed Contract agreement in order for the contractor to participate in the ECP program. The executed ECP Certification Form will remain on file. Note that the certification will apply to this contract and to future ECP-eligible contracts.

19.1. Upon final approval of the contract, an e-mail will be sent to the contractor's designated e-mail address with a hyperlink that will enable the firm to register, using a temporary password, on the OGS Design & Construction Vendor Interface. The temporary password will be sent to the contractor in letter form that is mailed on the same day.

19.2. The OGS Vendor Interface website will provide the ability to view contract information, submit the detailed estimate and payments requests electronically, and communicate with OGS Design & Construction.

**20. IRAN DIVESTMENT ACT**

20.1 By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, bidder/Contractor (or any assignee) certifies that it is not on the "Entities Determined To Be Non-Responsive bidders/Offerers Pursuant to The New York State Iran Divestment Act of 2012" list ("Prohibited Entities List") posted on the OGS website at

**http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf**

and further certifies that it will not utilize on such Contract any subcontractor that is identified on the Prohibited Entities List. Additionally, bidder/Contractor is advised that should it seek to renew or extend a Contract awarded in response to the solicitation, it must provide the same certification at the time the Contract is renewed or extended.

20.2 During the term of the Contract, should OGS receive information that a person (as defined in State Finance Law §165-a) is in violation of the above-referenced certifications, OGS will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then OGS shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, seeking compliance, recovering damages, or declaring the Contractor in default.

20.3 OGS reserves the right to reject any bid, request for assignment, renewal, or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

**21. NOT USED**

**END OF DOCUMENT**

**DOCUMENT 002213**

**SUPPLEMENTARY INSTRUCTIONS TO BIDDERS - MWBE-EEO**

This Supplement modifies the Instructions to Bidders. Where any part of the Instructions to Bidders is modified by this supplement, the unaltered provisions of that part shall remain in effect.

Add the following:

## 22. GOALS

22.1 To ensure meaningful participation in the Project of certified Minority- and Women-Owned Business Enterprises ("MWBEs") under the Contract, the Commissioner of General Services has established goals set forth in the Supplementary Conditions.

22.2 All bidders should note that important definitions and conditions relating to the foregoing MWBE goals are contained in the Supplementary Conditions.

22.3 In order to assist the State in determining compliance with the goals set forth in the Supplementary Conditions the apparent low bidder will be required to submit an MWBE Utilization Plan via the New York State Contracting System (NYSCS) prior to Contract award or subcontractor approval.

22.4 If unable to submit an MWBE Utilization Plan through the NYSCS, the apparent low bidder must use Form BDC 328 to submit the plan. The BDC 328 form is available for download at https://ogs.ny.gov/mwbe/forms and may be mechanically reproduced. Additional copies may be obtained upon request from the address listed in Paragraph 23.2 below.

22.5 The apparent low bidder must submit the completed MWBE Utilization Plan within seven (7) calendar days after the bids are opened. OGS will review the submitted MWBE Utilization Plan and advise the bidder of OGS acceptance or issue a notice of deficiency within twenty (20) days of receipt.

## 23. CERTIFICATION

23.1 All Minority- and Women-Owned Business Enterprises ("MBEs" or "WBEs") proposed as contractors, subcontractors or suppliers must be certified by the NYS Empire State Development, Division of Minority and Women's Business Development to be eligible for MBE or WBE credit on this project.

23.2 UPON WRITTEN REQUEST, The New York State Office of General Services' Office of Business Diversity (OBD) will provide a computer printout of certified MBEs and WBEs in specific trades for a given geographical area of New York State.

This printout can be requested in writing as follows:

- By e-mail to: DCMWBEManager@ogs.ny.gov
- By fax to: (518) 486-2679

- By mail to:

  NYS Office of General Services
  Office of Business Diversity
  29th Floor, Corning Tower, GNARESP
  Albany, NY 12242

## 24. LIQUIDATED DAMAGES – MWBE PARTICIPATION

24.1 Refer to Article 27.8, Document 007307, Supplementary Conditions - MWBE-EEO, for "Liquidated Damages – MWBE Participation".

**END OF DOCUMENT**

**DOCUMENT 002218**

**SUPPLEMENTARY INSTRUCTIONS TO BIDDERS - PRE-BID SITE VISIT**

This Supplement modifies the Instructions to Bidders. Where any part of the Instructions to Bidders is modified by this supplement, the unaltered provisions of that part shall remain in effect.

## 2. VISIT TO THE SITE

Change 2.1 to Read:

2.1 Prospective bidders will be allowed to visit the job site to take field measurements and examine existing conditions of the project area only during the pre-bid site visit. Prospective bidders are urged to visit the site at this time. Prospective bidders or their representatives attending the pre-bid site visit will not be admitted on facility grounds without proper photo identification. Parking restrictions and security provisions will apply and vehicles will be subject to search. The date, time, location of the pre-bid site visit, and the phone number are included in the Advertisement for Bids.

Bidders are strongly encouraged to visit the project site to assess project conditions or quality standards.

Phone a minimum of 24 hours in advance of the pre-bid site visit with the names of those who will attend.

All participants shall comply with facility rules and regulations.

Participants will not be allowed to deviate from the group walk-thru and must stay with the group for the duration of the visit. All participants will adhere to the direction given by the Director's Representative at all times during the visit.

Individuals shall not attend the site visit if they are feeling ill.

**END OF DOCUMENT**

**DOCUMENT 002219**

**SUPPLEMENTARY INSTRUCTIONS TO BIDDERS - QUALIFICATIONS OF BIDDERS AND MANDATORY PRE-AWARD SUBMITTAL REQUIREMENTS**

This Supplement modifies the Instructions to Bidders. Where any part of the Instructions to Bidders is modified by this supplement, the unaltered provisions of that part shall remain in effect.

Add the following Articles:

## 25. QUALIFICATIONS OF BIDDERS

25.1 The Contracting Officer or their representative will schedule a pre-award meeting to consider the bid responsiveness of the bid submitted by the apparent low bidder within fourteen (14) calendar days of the bid opening. Bidders will be notified of the time and place of the meeting. On a case by case basis, the State will examine and evaluate the bid as responsive by considering the contractors understanding of: the overall project scope, estimated cost, utilization of proposed sub-contractors, expertise, workmanship and past performance in completing similar contracts.

25.2 The Contracting Officer or their respective representative will conduct an investigation to determine the responsibility of any Bidder, including the ability of any Bidder to perform the Work. Bidders shall furnish to the Officer all information and data requested, including complete financial data, within the time and in the form and manner requested. The Contracting Officer reserves the right to reject any bid if the evidence required by the Officer is not submitted as requested, or if the evidence submitted by or the investigation of any Bidder fails to satisfy the Contracting Officer that the Bidder is responsible, or is able and qualified to carry out the obligations of the Contract, or to complete the Work as indicated in the Contract Documents, or able to reasonably perform the Work for the Bid Amount.

25.3 The criteria contained in Executive Order No. 170.1 Uniform Guidelines for Determining the Responsibility of Bidders will be applied in the evaluation of Bidders. Special criteria that will be considered in establishing the responsibility of the Bidders shall include, but not be limited to established experience in performing the Work required by the Contract Documents. Experience will be viewed from comparable projects as well as experience and knowledge of construction by the firm's personnel.

## 26. MANDATORY PRE-AWARD SUBMITTAL REQUIREMENTS

26.1 The apparent low bidder must submit the required pre-award submittal package outlined below to the Regional Supervisor within seven (7) calendar days after the bids are opened.

Regional Supervisor Name: John Pupons
Address: Eleanor Roosevelt State Office Building
4 Burnett Blvd., Suite 309, Poughkeepsie, NY 12603
Phone: (845) 431-5976
Email: Region3preawardsubmittals@ogs.ny.gov

Submissions must be emailed and must include the Project Number of this contract in the Subject Line of the Pre-Award submission email (i.e. OGS PN 12345-C: Pre-Award Submission).

Pre-award Submittal Package:

1. References and Experience:
   a. List of all past contracts with OGS. Include OGS Project Number and date.
   b. Provide three (3) references (Name, Title, and Phone Number) associated with three (3) different projects (OGS, public, or private sector) of similar scope and size to the one identified in this contract. Additionally, include the names of two major suppliers used for each of these three (3) projects.

      Provide a copy of recent past experience as required under the filing of the NYS Vendor Responsibility Questionnaire (CCA-2 document) with the Office of the State Comptroller. Provide only Attachment A: Completed Construction Contracts and Attachment B: Uncompleted Construction Contracts. For additional information, see:

      http://www.osc.state.ny.us/vendrep/form_cca2.htm

2. Workforce and Work Plan – Provide a detailed written Work Plan which shall demonstrate the contractor's understanding of overall project scope and shall include, but not be limited, to the following:
   a. Sequential listing of specific project activities required to successfully complete the Work of the contract.
      1. Include Critical Milestones.
      2. Include phasing of the Work, if required.
      3. Include listing of long lead items.
      4. Impact of weather and restricted work period(s).
      5. Include a list of site-/project-specific safety hazards, and how such hazards will be considered in performance of the Work.
   b. Résumés for Contractor's proposed supervisory staff, including qualifications for specialized expertise or any certification(s) required to perform the Work.
   c. Schedule Preparer qualifications when required by specification 013200.
   d. Submittal Coordinator qualifications when required by specification 013300.
   e. Names of proposed major sub-contractors (more than 15% of the bid amount or where critical systems of work are identified in the contract) and a listing of the related trade of work and value.
   f. Any special coordination requirements with other trades.
   g. Any special storage and staging requirements for construction materials.

3. Detailed Cost Estimate:
   a. A copy of a Detailed Cost Estimate outlined in CSI format.

4. Provide information for any other special requirements at the request of the Director's Representative.

26.2 When requested by the Contracting Officer or their representative, Bidders shall, within the time specified by the Officer, submit to the Officer the names of the Subcontractors the Bidder proposes to use on the project. The Contracting Officer reserves the right to disapprove the use of any proposed Subcontractor. In such an event the Bidder shall submit the name of another Subcontractor in like manner within the time specified by the Officer. The Bidder shall have and will make no claim for compensation if the Contracting Officer disapproves any proposed Subcontractor. The Contracting Officer reserves the right to reject any bid if the names of proposed Subcontractors, or additional subcontract information, are not submitted as required.

**END OF DOCUMENT**

**DOCUMENT 003113**

**REFERENCE SUMMARY PROJECT SCHEDULE**

A Summary Project Schedule has been prepared for this project. Refer to SECTION – 011000.01 SUMMARY OF THE WORK for the required phasing or sequencing of the work as presented on the following pages. This Summary Project Schedule is meant to be used as reference in preparing a bid response for the Work Plan requirement of DOCUMENT 002219 - SUPPLEMENTARY INSTRUCTIONS TO BIDDERS - QUALIFICATIONS OF BIDDERS AND MANDATORY PRE-AWARD SUBMITTAL REQUIREMENTS. It is not intended that these examples limit the Contractor in any way in preparation of a bid response.

NOTE: All information presented in the Summary Project Schedule included in this Document are for reference only.

# DOCUMENT 003126

# EXISTING HAZARDOUS MATERIAL INFORMATION

## 1.01 ASBESTOS SURVEY REPORT

Samples listed in the report were collected at the Project Site and tested for Asbestos Containing Materials (ACM). The report was compiled for New York State Office of General Services, Design and Construction Group by an ELAP certified laboratory. In order to determine the Asbestos content, samples were analyzed by polarized light microscopy (PLM) and/or transmission electron microscopy (TEM). The report is intended for the State design and estimate purposes only and is included to provide bidders with that same information available to the State. The Bulk Samples are representative of Homogeneous Area (HA) and is defined as a suspect material of similar age, appearance, function and texture. All field information was organized in accordance with 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA). See the Hazardous Materials Survey Pre-Renovation For Asbestos, Lead-Based Paint and PCB in Caulk and the Renovation Survey For Asbestos-Containing Materials, Lead-Based Paint & PCBs reports included in the Appendix for type, condition, location and approximate quantity of ACM.

## 1.02 LEAD SURVEY REPORT

Samples listed in the report were collected at the Project Site and tested for Lead content. The report was compiled for New York State Office of General Services, Design and Construction Group by an ELAP certified laboratory. In order to determine the lead content the Atomic Absorption method or a XRF Analyzer was used. This report is intended for State design and estimate purposes only and is included to provide bidders with the same information available to the State. The samples are representative of like materials in the Work area. All lead containing materials may not have been sampled. See the Hazardous Materials Survey Pre-Renovation For Asbestos, Lead-Based Paint and PCB in Caulk and PCB in Caulk and the Renovation Survey For Asbestos-Containing Materials, Lead-Based Paint & PCBs reports included in the Appendix for details.

## 1.03 PCB SAMPLING REPORT

Samples listed in the report were collected at the Project Site and tested for PCBs. The report was compiled for New York State Office of General Services, Design and Construction Group by an ELAP certified laboratory. Bulk, wipe or air sampling was used in determining the PCB content. This report is intended for State design and estimate purposes only and is included to provide bidders with the same information available to the State. All PCB containing materials may not have been sampled. See the Hazardous Materials Survey Pre-Renovation For Asbestos, Lead-Based Paint and PCB in Caulk and PCB in Caulk and the Renovation Survey For Asbestos-Containing Materials, Lead-Based Paint & PCBs reports included in the Appendix for details.

**END OF DOCUMENT**

**DOCUMENT 003132**

**GEOTECHNICAL DATA**

The subsurface logs included in this Document were made on the dates indicated on the individual logs.

The observed water levels and/or conditions noted on the subsurface logs are as recorded at the time of exploration. These water levels and/or conditions may vary considerably with time, according to the prevailing climate, rainfall, or other factors and are otherwise dependent on the duration of and method used in the explorations program.

Sound engineering judgment was exercised in preparing the subsurface logs. This information was prepared and is intended for State design and estimate purposes only. Its presentation is for the purpose of providing intended users with access to the same information available to the State. These subsurface logs are presented in good faith and are not intended as a substitute for personal investigation, independent interpretations, or judgment of the bidders.

END OF SECTION

DETACH AND USE THIS FORM

**BID FORM FOR: 47477-P**

**PLUMBING WORK**
**RENOVATE ARMORY**
**STATE ARMORY**
**2 QUINCY PLACE**
**YONKERS, NY**

State of New York
Office of General Services
Design and Construction Group
Division of Contract Management
35th Floor, Corning Tower
The Gov. Nelson A. Rockefeller
Empire State Plaza
Albany, NY 12242

***THIS IS A 4 PAGE BID FORM. ALL PAGES MUST BE COMPLETED.***

THE STATE RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS. EACH BID FORM SHALL BE ACCOMPANIED BY BID SECURITY (AS DESCRIBED IN THE INSTRUCTIONS TO BIDDERS) IN THE AMOUNT STATED IN THE ADVERTISEMENT FOR BIDS.

The Undersigned agrees to complete the Work within the time stated in Section 011000 of the Specifications.

The Undersigned acknowledges his/her understanding of the social policy concerning minority and women business participation in the State building construction program, and pledges to cooperate with the State in the implementation of this policy, and further pledges to exert good faith efforts to achieve participation of minority and female employees.

The Undersigned certifies, as to each of the occupations listed in the Prevailing Rate Schedule applicable to this Project, the ability and willingness to exert good faith efforts to achieve the goal for minority and women workforce participation as set forth in the Supplementary Conditions.

The Undersigned certifies the ability and willingness to exert good faith efforts to achieve the goals for Minority and Women-Owned Business Enterprise and Service-Disabled Veteran-Owned Businesses participation as set forth in the Supplementary Conditions.

The Undersigned declares that the Bidding and Contract Documents have been carefully examined and that all things necessary for the completion of the Work shall be provided.

The Undersigned agrees that the bid security shall be subject to forfeiture if this bid is accepted by the State and he/she does not submit executed copies of the Agreement WITHIN FIVE (5) DAYS OF RECEIPT OF A WRITTEN REQUEST TO PROVIDE SUCH AGREEMENT. A Performance Bond and a Labor and Material Bond, each in an amount equal to the contract sum, shall be supplied with the executed Agreement and shall be the statutory form of public bonds required by Sections 136 and 137 of the State Finance Law.

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his/her knowledge and belief:

(1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor;

(3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

(4) This contract shall not cause or result in a violation of Section 74(3)(e) of the Public Officers Law which states: "No officer or employee of a state agency, member of the legislature or legislative employee should engage in any transaction as representative or agent of the State with any business entity in which he/she has a direct or indirect financial interest that might reasonably tend to conflict with the proper discharge of his/her official duties."

**Federal Employer I.D. No. _____**

(5) The Bidder understands and agrees to comply with the requirements of the Procurement Lobbying Law, State Finance Law § 139-j and § 139-k, and with OGS's procedures relating to permissible contacts during a procurement as required by State Finance Law § 139-j(3) and § 139-j(6)(b). Such requirements and procedures are posted at https://ogs.ny.gov/acpl.

(6) The bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of section 165-a of the state finance law (NYS Iran Divestment Act of 2012). The list can be viewed at the following link:

https://ogs.ny.gov/iran-divestment-act-2012

(7) Will New York State Businesses be used in the performance of this contract (refer to Document 007324)?

Yes ☐ No ☐

(8) The New York State Human Rights Law (Human Rights Law), Article 15 of the Executive Law, prohibits discrimination and harassment based on age, race, creed, color, national origin, sex, pregnancy or pregnancy-related conditions, sexual orientation, gender identity, disability, marital status, familial status, domestic violence victim status, prior arrest or conviction record, military status or predisposing genetic characteristics.

The Human Rights Law may also require reasonable accommodation for persons with disabilities and pregnancy-related conditions. A reasonable accommodation is an adjustment to a job or work environment that enables a person with a disability to perform the essential functions of a job in a reasonable manner. The Human Rights Law may also require reasonable accommodation in employment on the basis of Sabbath observance or religious practices.

Generally, the Human Rights Law applies to:

- all employers of four or more people, employment agencies, labor organizations and apprenticeship training programs in all instances of discrimination or harassment;
- employers with fewer than four employees in all cases involving sexual harassment; and,
- any employer of domestic workers in cases involving sexual harassment or harassment based on gender, race, religion or national origin.

In accordance with Executive Order No. 177, the Bidder hereby certifies that it does not have institutional policies or practices that fail to address the harassment and discrimination of individuals on the basis of their age, race, creed, color, national origin, sex, sexual orientation, gender identity, disability, marital status, military status, or other protected status under the Human Rights Law.

Executive Order No. 177 and this certification do not affect institutional policies or practices that are protected by existing law, including but not limited to the First Amendment of the United States Constitution, Article 1, Section 3 of the New York State Constitution, and Section 296(11) of the New York State Human Rights Law.

(9) In accordance with State Finance Law § 139-l, by submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law.

If the bidder cannot make the foregoing certification, such bidder shall so state and shall furnish with the bid a signed statement that sets forth in detail the reasons that the bidder cannot make the certification.

(10) In accordance with State Finance Law § 139-m, by submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing gender-based violence and the workplace and has provided such policy to all of its employees, directors and board members. Such policy shall, at a minimum, meet the requirements of subdivision 11 of section five hundred seventy-five of the executive law.

If the bidder cannot make the foregoing certification, such bidder shall so state and shall furnish with the bid a signed statement that sets forth in detail the reasons that the bidder cannot make the certification.

**Federal Employer I.D. No. _____**

(11) In accordance with Section 165(5) of the State Finance Law, the bidder, by submission of this bid, certifies that it or any individual or legal entity in which the bidder holds a 10% or greater ownership interest, or any individual or legal entity that holds a 10% or greater ownership interest in the bidder, either (answer yes or no to one or both of the following, as applicable):

1. have business operations in Northern Ireland Yes ☐ No ☐ and if yes:

2. shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles relating to nondiscrimination in employment and freedom of workplace opportunity regarding such operations in Northern Ireland, and shall permit independent monitoring of compliance with such principles.

Yes ☐ No ☐

(12) Certification Under Executive Order No. 16 - Prohibiting State Agencies and Authorities from Contracting with Businesses Conducting Business in Russia

Executive Order No. 16 provides that "all Affected State Entities are directed to refrain from entering into any new contract or renewing any existing contract with an entity conducting business operations in Russia." The complete text of Executive Order No. 16 can be found here: https://www.governor.ny.gov/executive-order/no-16-prohibiting-state-agencies-and-authorities-contracting-businesses-conducting

The Executive Order remains in effect while sanctions imposed by the federal government are in effect. Accordingly, vendors who may be excluded from award because of current business operations in Russia are nevertheless encouraged to respond to solicitations to preserve their contracting opportunities in case the sanctions are lifted during a solicitation or even after award in the case of some solicitations.

As defined in Executive Order No. 16, an "entity conducting business operations in Russia" means an institution or company, wherever located, conducting any commercial activity in Russia or transacting business with the Russian Government or which the commercial entities headquartered in Russia or with their principal place of business in Russia in the form of contracting, sales, purchasing, investment, or any business partnership.

Is Vendor an entity conducting business operations in Russia, as defined above? Please answer by checking one of the following boxes:

☐ 1. No, Vendor does not conduct business operations in Russia within the meaning of Executive Order No. 16.

☐ 2.a. Yes, Vendor conducts business operations in Russia within the meaning of Executive Order No. 16 but has taken steps to wind down business operations in Russia or is in the process of winding down business operations in Russia. (Please provide a detailed description of the wind down process and a schedule for completion.)

☐ 2.b. Yes, Vendor conducts business operations in Russia within the meaning of Executive Order No. 16 but only to the extent necessary to provide vital health and safety services within Russia or to comply with federal law, regulations, executive orders, or directives. (Please provide a detailed description of the services being provided or the relevant laws, regulations, etc.)

☐ 3. Yes, Vendor conducts business operations in Russia within the meaning of Executive Order No. 16.

(13) In accordance with New York State Labor Law Section 220-i, the bidder certifies that it is registered with the New York State Department of Labor (NYSDOL) for public work projects. By submission of this bid and providing the registration number in the space indicated on this bid form, the bidder affirms that its registration is current and valid as of the date of bid submission.

**Federal Employer I.D. No.** _____

Addenda to the Contract Documents are available at:
https://online.ogs.ny.gov/dnc/contractorConsultant/esb/ESBPlansAvailableIndex.asp
The Undersigned acknowledges receipt and review of all Addenda to the Contract Documents on the above website, listed by number in the space below:

_____

The Undersigned proposes to perform the Work required for this project in accordance with the Contract Documents for the following amount:

BID AMOUNT

| | | |
|---|---|---|
| 1. | All Work except Allowance(s) | $ _____.00 |
| 2. | Allowance(s) (As described in Section 012100) | $ 112,919.00 |
| | **Total Bid Amount (Sum of 1. & 2.)** | $ _____.00 |

FEDERAL EMPLOYER I.D. NO. _____

NYSDOL CONTRACTOR REGISTRATION NO. (per NYS LABOR LAW 220-i) _____

Is your firm a NYS-Certified Minority and Women-Owned Business Enterprise (MWBE)? Yes ☐ No ☐

MWBE CERTIFICATION FILE NO. _____

SIGN BID HERE _____
Authorized Signature

PRINT NAME OF SIGNER _____

TITLE OF SIGNER _____

OFFICIAL COMPANY NAME _____

MAILING ADDRESS _____
Street

_____
City State Zip

TELEPHONE NO. _____ FAX NO. _____
Area Code Area Code

E-MAIL ADDRESS _____

*****

**Federal Employer I.D. No.** _____

**FORM OF BID BOND - BID SECURITY**
**STATE OF NEW YORK**
**OFFICE OF GENERAL SERVICES - DESIGN & CONSTRUCTION**

**Sub. 3, Sec. 8 - Public Buildings Law**

**BE IT KNOWN**, That _____

_____
(Name of Contractor)

_____
(Address)

(hereinafter called the "Principal") and _____ a corporation created and existing under the Laws of the State of _____ having its principal office in the City of _____ duly licensed as an insurance company in the State of New York, (hereinafter called the "Surety"), are held and firmly bound unto The People of the State of New York (hereinafter called the "State"), in the full and just sum of $53,400 good and lawful money of the United States of America, for the payment of which said sum of money, well and truly to be made, and done, the Principal binds themselves (himself, herself, itself), their (his, hers, its) heirs, executors and administrators, successors and assigns, and the Surety binds itself, its successors and assigns jointly and severally, firmly by these presents:

**WHEREAS**, the Principal has submitted to the Office of General Services of the State of New York a proposal for Plumbing Work, Renovate Armory, State Armory, 2 Quincy Place, Yonkers, NY

**AND**

**WHEREAS**, the Principal intends to file this bond to guarantee that the Principal will execute a contract and furnish performance and labor and material bonds required by the terms of the Principal's proposal.

**NOW, THEREFORE**, the condition of the foregoing obligation is such, that if the Principal shall promptly submit an executed agreement and furnish performance and labor and material bonds required by the terms of the Principal's proposal, then this obligation shall be null and void, otherwise to remain in full force and virtue.

**NOW, THEREFORE**, the condition of the foregoing obligation is such that if the Principal fails to promptly submit an executed agreement and furnish performance and labor and material bonds required by the terms of the Principal's proposal, then the Surety itself, its successors and assigns, jointly and severally, shall pay the whole sum of money previously set forth in this document to the State.

**IN TESTIMONY WHEREOF**, the Principal has hereunto set their (his, hers, its) hand and seal and the Surety has caused this instrument to be signed by its Attorney-in-fact, _____ and its corporate seal to be hereunto affixed.

Signed, sealed and delivered in the presence of:

(Corporate seal
of Principal if a corporation)

_____ (L.S.)

_____ (L.S.)

Principal

_____ Company

(Corporate seal of Surety Co.) _____

_____

Attorney-in-fact

Witness _____

Name

_____

Name

(Acknowledgment by principal, unless it be a corporation)

**STATE OF NEW YORK**
**SS.**:
**COUNTY OF** _____

On this _____ day of _____20_____, before me personally came _____ to me known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged that he/she executed the same.

_____
Notary Public County

(Acknowledgment by principal, if a corporation)

**STATE OF NEW YORK**
**SS.**:
**COUNTY OF** _____

On this _____ day of _____20_____, before me personally came _____ to me known, who being by me duly sworn, did depose and say that he/she resides in _____; that he/she is the _____ of the _____; the corporation described in and which executed the foregoing instrument; that he/she knew the seal of said corporation; that the seal affixed to said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he/she signed his/her name thereto by like order.

_____
Notary Public County

(Acknowledgment by Surety Company)

**STATE OF NEW YORK**
**SS.**:
**COUNTY OF** _____

On this _____ day of _____ 20_____, before me personally came _____ to me known, who being by me duly sworn, did depose and say that he/she resides in _____; that he/she is the _____ of the _____; the corporation described in and which executed the within instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that is was so affixed by order of the Board of Directors of said corporation; and that he/she signed his/her name thereto by like order.

_____
Notary Public County

Empire State Development

# NEW YORK STATE'S SURETY BOND

## Assistance Program Helps Small Business Contractors Secure Surety Bonding

What is the NYS Surety Bond Assistance Program?

The NYS Surety Bond Assistance Program (NYSBAP) provides technical and financial assistance to help contractors secure surety bonding. Contractors may be eligible to receive a guarantee of up to 30% to secure a surety bond line, bid bond or a performance and payment bond on state projects.

How does the NYS Surety Bond Assistance Program work?

To apply for financial assistance, small business contractors should review eligibility requirements and fill out a pre-application assessment available at the Empire State Development (ESD) website.

If the assessment indicates you are eligible to submit an application, proceed with the Application and submit the required forms.

Guarantees of up to 30% on a bond line or individual contract bid bonds and payment/performance bonds are available from Empire State Development. Being eligible for this program does not automatically ensure bonding. Approval is based on both underwriting by a surety company and ESD's credit assessment. Participating surety companies will make a credit determination in accordance with their internal underwriting standards.

Small businesses can also enroll to receive training and technical support on how to become bond-ready by using the Contact Information below. The classroom training is held throughout New York State.

Who is eligible?

- Applicant must be a NYS small business or MWBE with at least two years of business operation.
- Maximum bond line or project size is $2 million
- Minimum average gross revenue of $400,000 in the last two fiscal or calendar years and maximum gross revenue not to exceed $5 million in the most recent calendar or fiscal year.
- Minimum credit score of 600.
- Previous experience completing similar work to the contract opportunity being pursued.

Find Out More

If interested in training or financial support, please visit ESD's website:
http://esd.ny.gov/BusinessPrograms/BondingAssistance.html

For additional inquiries, please contact:
Ms. Huey-Min Chuang
Senior Director of Business & Economic Development
212-803-3238
BAP@esd.ny.gov

## Offerer Disclosure of Prior Non-Responsibility Determinations

See instructions on next page before completing this form.

Name of Individual or Entity Seeking to Enter into the Procurement Contract:

_____

Address: _____

_____

Name and Title of Person Submitting this Form: _____

_____

Contract Procurement Number: _____ Date: _____

1. Has any Governmental Entity made a finding of non-responsibility regarding the individual or entity seeking to enter into the Procurement Contract in the previous four years? (Please circle):

No Yes

If yes, please answer the next questions:

2. Was the basis for the finding of non-responsibility due to a violation of State Finance Law §139-j (Please circle):

No Yes

3. Was the basis for the finding of non-responsibility due to the intentional provision of false or incomplete information to a Governmental Entity? (Please circle):

No Yes

4. If you answered yes to any of the above questions, please provide details regarding the finding of non-responsibility below and attach additional pages as necessary.

Governmental Entity: _____

Date of Finding of Non-responsibility: _____

Basis of Finding of Non-Responsibility: _____

5. Has any Governmental Entity or other governmental agency terminated or withheld a Procurement Contract with the above-named individual or entity due to the intentional provision of false or incomplete information? (Please circle):

No Yes

6. If yes, please provide details below and attach additional pages as necessary.

Governmental Entity: _____

Date of Termination or Withholding of Contract: _____

Basis of Termination or Withholding: _____

Offerer certifies that all information provided to the Governmental Entity with respect to State Finance Law §139-k is complete, true and accurate.

By: _____ Date: _____

Signature

## Instructions for Completing the DCA-3

## Offerer Disclosure of Prior Non-Responsibility Determinations

**Background:**

New York State Finance Law §139-k(2) obligates a Governmental Entity to obtain specific information regarding prior non-responsibility determinations with respect to State Finance Law §139-j. This information must be collected in addition to the information that is separately obtained pursuant to State Finance Law §163(9). In accordance with State Finance Law §139-k, an Offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law §139-j or (b) the intentional provision of false or incomplete information to a Governmental Entity. The terms "Offerer" and "Governmental Entity" are defined in State Finance Law § 139-k(1). State Finance Law §139-j sets forth detailed requirements about the restrictions on Contacts during the procurement process. A violation of State Finance Law §139-j includes, but is not limited to, an impermissible Contact during the restricted period (for example, contacting a person or entity other than the designated contact person, when such contact does not fall within one of the exemptions).

As part of its responsibility determination, State Finance Law §139-k(3) mandates consideration of whether an Offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no Procurement Contract shall be awarded to any Offerer that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the Procurement Contract to the Offerer is necessary to protect public property or public health safety, and that the Offerer is the only source capable of supplying the required Article of Procurement within the necessary timeframe. See State Finance Law §§139-j (10)(b) and 139-k(3).

**Instructions:**

OGS Design and Construction includes this disclosure request regarding prior non-responsibility determinations in accordance with State Finance Law §139-k in its solicitation of proposals or bid documents or specifications or contract documents, as applicable, for procurement contracts. The attached form is to be completed and submitted by the individual or entity seeking to enter into a Procurement Contract, Supplement or Change Order. It shall be submitted to the OGS Design and Construction unit conducting the Governmental Procurement.

This document must accompany each Bid Form, Letter of Interest, or Proposal submitted by an offerer and will be required for any contract amendments over $15,000. This document must also accompany each Emergency Contract Bid Form.

STATE OF NEW YORK - EXECUTIVE DEPARTMENT

OFFICE OF GENERAL SERVICES - DESIGN & CONSTRUCTION GROUP

# DOCUMENT 007213
# GENERAL CONDITIONS
## AUGUST 2010 EDITION

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(Appendix A revised 06/2023)
(Articles 5, 10 and 21 revised in 01/2011)
(Article 23 corrected in 02/2017)

ARTICLE 1 - THE CONTRACT DOCUMENTS

1.1 The Contract Documents consist of the Agreement, the Performance and Payment Bonds, the General Conditions, the Supplementary Conditions, Appendix A, the Drawings and Specifications, Addenda issued prior to the receipt of bids and all subsequent modifications and changes issued pursuant to the General Conditions.

1.1.1 The Performance and Payment Bonds are not a part of Single Trade Contract less than two hundred thousand dollars.

1.2 The Contract Documents form the Contract. The Contract represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations and agreements, either written or oral including the bidding documents.

1.3 The Contract may not be modified except in accordance with the General Conditions.

1.4 The project is designed in accordance with the Building Codes of New York State and its reference standards. In no instance shall the Contractor deviate from the contract documents except as provided for in the contract. The Contractor shall notify the State of any deviations or conflicts observed that may violate the Building Codes.

ARTICLE 2 - DEFINITIONS

2.1 The following terms shall have the meanings ascribed to them in this Article, wherever they appear in the Contract Documents.

2.2 The term “Agency” means the officer, board, department, commission, authority, fund or public benefit corporation executing the Agreement.

2.3 The term “Commissioner” means the Commissioner of General Services.

2.4 The term “Comptroller” means the Comptroller of the State of New York.

2.5 The term “Contracting Officer” means the Director of Contract Administration of the Design and Construction Group of the Office of General Services or his representative designated in writing.

2.6 The term “Contractor” means the person, firm or corporation executing the Agreement or the successor or assignee of the Contractor approved in writing by the Contracting Officer. If the text requires, the term includes the person, firm or corporation executing any Agreement in furtherance of the Project or the successors or assigns approved in writing by the Contracting Officer.

2.7 The term “days” means calendar days.

2.8 The term “Director” means the Director of Construction of the Design and Construction Group of the Office of General Services who will have general direction and supervision of the Work.

2.9 The term “Director’s Representative” means the employee or agent of the Design and Construction Group designated in writing by the Director as such. Under the general supervision of the Director, the Director’s Representative shall have complete charge of the Work and shall exercise full supervision and direction of the Work. Where the Contract Documents specifically designate a person to perform a function or duty, that person shall be the Director’s Representative but only for the performance of that function or duty. Where the word “directed” appears in the Contract Documents, the words “by the Director’s Representative” shall be deemed inserted thereafter in each case except where it is obviously inappropriate in context.

2.10 The term “Group Director” means the Deputy Commissioner for Design and Construction, Office of General Services.

2.11 The term “liquidated damages” means the amount of money to be assessed against the Contractor for delay in physical completion of the Work.

2.12 The term “physical completion” means the date upon which the Director’s Representative certifies that all deficiencies noted on the Final Inspection List have been corrected and is evidenced by issuance of the Physical Completion Report.

2.13 The term “premises” means all land, buildings, structures and all other things of any kind located on or adjacent to the Site and owned, occupied or otherwise used by the State.

2.14 The term “product data” means manufacturer’s catalog sheets, brochures, standard diagrams, illustrations, schedules, performance charts, test data, standard schematic drawings, specifications and installation instructions.

2.15 The term “Project” means Work at the same Site carried out pursuant to one or more sets of Contract Documents.

2.16 The term “provide” means furnish and install complete, in place and ready for operation and use.

2.17 The term “sample” means physical examples submitted by the Contractor of materials, equipment or workmanship to establish a standard which the Contractor is required to meet and to show the quality, type, range of color, finish, and texture of the material intended to be furnished for the Work.

2.18 The term “shop drawing” means an original drawing prepared by a Contractor, subcontractor, supplier or distributor which illustrates some portion of the Work showing fabrication, layout, fitting or erection details.

2.19 The term “Site” means the area within the contract limit, as indicated by the Contract Documents, including all land, buildings, structures and other things located within those limits.

2.20 The term “State” means the State of New York.

2.21 The term “substantial completion” means that the Work or major milestones there of as contemplated by the terms of this contract are sufficiently complete so that the Work can be used for the purpose for which it is intended.

2.22 The term “Work” means all that which is required of the Contractor by the Contract Documents including labor, materials, tools and equipment.

2.23 The term “Offerer” shall mean the individual or entity, or any employee, agent, consultant or person acting on behalf of such individual or entity that contacts a governmental entity about a governmental procurement during the restricted period of such governmental procurement.

ARTICLE 3 - INTERPRETATION OF CONTRACT DOCUMENTS

3.1 The Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all. It is not intended to include work not properly inferable from the Contract Documents.

3.2 Upon the Contractor’s written request, the Director’s Representative may issue written interpretation or drawings necessary for the proper execution or progress of the Work which interpretation shall be consistent with and reasonably inferable from the Contract Documents.

3.3 The language of the Contract Documents is directed at the Contractor unless specifically stated otherwise.

3.4 The organization of the Specifications into divisions, sections and articles, and the arrangement of Drawings shall not control the Contractor in dividing the Work among subcontractors or in establishing the extent of Work to be performed by any trade.

3.5 In the event of conflicting provisions in the Contract Documents, the drawings will take precedence over the specifications.

3.6 In the event of conflicting provisions within the drawings, the following order of precedence for resolution of the conflict shall apply: the more specific provision will take precedence over the less specific; if not resolved, the less stringent will take precedence over the more stringent; if not resolved, the less expensive item will take precedence over the more expensive. On all drawings, figures take precedence over scaled dimensions.

3.7 In the event of conflicting provisions within the specifications, the following order of precedence for resolution of the conflict shall apply: the more specific provision will take precedence over the less specific; if not resolved, the less stringent will take precedence over the more stringent; if not resolved, the less expensive item will take precedence over the more expensive.

3.8 If during the performance of the work, the Contractor identifies a conflict in the Contract Documents; the Contractor shall promptly notify the Director’s Representative in writing of the conflict and advise as to the course of action the Contractor proposes to follow. The Director’s Representative shall promptly acknowledge the notification in writing and advise the Contractor, pursuant to Paragraph 3.2 of these General Conditions, as to the interpretation to be followed in the performance of the Work.

ARTICLE 4 - SUBMITTALS

4.1 The Contractor and the Director shall adhere to the submittal and scheduling requirements specified in Division 01 - General Requirements.

4.2 The Contractor shall approve all submittals before submitting them. By such approval, the Contractor represents that it has determined and verified field measurements, field construction criteria, materials, catalog numbers, and similar data and that it has checked and coordinated shop drawings, product data and samples with the requirements of the Contract Documents and that it has verified the completeness, correctness, and accuracy of the submittal.

4.3 The Director’s approval of shop drawings, product data and samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has previously informed the Director of any anticipated deviation utilizing the required deviation request form,

(available at the OGS D&C website),at the time of submission. Written approval of the specific deviations as outlined on the request form shall be required. The Director's approval shall not relieve the Contractor from responsibility for errors or omissions in the shop drawings, product data or samples.

4.4 Portions of the Work requiring shop drawings, product data, quality assurance information, or sample submittals shall not be commenced until the appropriate submittals have been approved by the Director.

4.5 The Contractor shall deliver to the Director, in the detail and form and at the time the Director shall require, information concerning the Contractor's operations and proposed operations upon the Project all in accordance with Division 01 - General Requirements.

4.6 During the term of this Project, the Director may require any Contractor to modify any schedules which it has submitted either before or after they are approved so that the Work of any contract in furtherance of the Project may be properly progressed and so that changes in the Work or the work of related contracts is properly reflected in the schedules.

4.7 Where indicated under the specific submittal requirements of the specifications, a re-evaluation fee of $250.00 will be assessed against the Contractor for each re-evaluation required of any submittal package that is deemed incomplete, or lacking appropriate content or required format as required by the individual specification section.

ARTICLE 5 - MATERIALS AND LABOR

5.1 All materials, equipment and articles used permanently in the Work which become the property of the State shall be new unless specifically stated otherwise.

5.2 Asbestos Free Materials: All materials used for construction shall be free of asbestos containing materials unless the materials containing the asbestos have been previously approved for use by the State. If asbestos is found in installed products not previously approved by the State, then it will be the responsibility of the contractor to abate the asbestos containing material and replace the work with new asbestos free materials at no cost to the State of New York in compliance with the requirements of the contract.

5.3 Except where specifically provided otherwise, whenever any product is specified by brand name, i.e., manufacturer's or supplier's name or trade name and catalog or model number or name, the intent is not to limit competition but to establish a standard of quality which the Director has determined is necessary. The words "or equal" shall be deemed inserted in each instance. The Contractor may use any product equal to that named in the Contract Documents which is approved by the Director and which meets the requirements of the Contract Documents providing the Contractor gives timely notice of the Contractor's intent in accordance with the submittal and scheduling requirements of Division 01 - General Requirements.

5.4 The Contractor shall have the burden of proving at the Contractor's own cost and expense, to the satisfaction of the Director, that the proposed product is equal to the named product. The Director may establish criteria for product approval. The Director shall determine with absolute discretion whether a proposed product is to be approved.

5.5 If the Contractor fails to comply with the provisions of this Article, or if the Director determines that the proposed product is not equal to that named, the Contractor shall supply the product named.

5.6 The Contractor shall have and make no claim for the extension of time or for damages because the Director requires a reasonable period of time to consider a product proposed by the Contractor or because the Director disapproves such a product.

5.7 Where optional materials or methods are specified, or where "or equal" submissions are approved, the Contractor shall make all adjustments to contingent Work, whether the contingent Work be the Work of its contract or the Work of other Contractor's, necessary to accommodate the option or "or equal" product it selects without extra or additional cost.

5.8 Royalties and Patents: The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and shall save the State harmless from loss on account thereof, except that the State shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer is specified.

ARTICLE 6 - CONTRACTOR'S SUPERVISION

6.1 The Contractor shall designate in writing competent supervision and/or management representatives as required below to represent the Contractor at all times with authority to act for the Contractor. All Direction given to the Contractor's Representatives shall be as binding as if given to the Contractor. A Superintendent or Project Manager shall be classified as management representatives included in the Contractor's overhead and shall perform management, supervisory and/or administrative tasks (non labor) only. Individuals listed under this Article shall have the ability to effectively communicate (verbal and written) with all parties associated with the administration/supervision of this contract.

6.1.1 For contracts valued up to $500,000 the contractor shall provide a supervisor for the Contractor's staff who shall be in attendance at the site throughout the active performance of the Work.

6.1.2 For contracts valued from $500,000 to $2,000,000 the Contractor shall provide a Superintendent for the Contractor's staff who shall be in attendance at the site throughout the active performance of the Work until Substantial Completion. Upon Substantial Completion the contractor shall provide a supervisor who shall be in attendance at the site throughout the active performance of the Work until Physical Completion. The Superintendent shall have the authority to direct and schedule the Work, shall attend all project meetings, shall coordinate the Work of subcontractors, and make purchase and cost decisions on behalf of the Contractor.

6.1.3 For contracts valued from $2,000,001 to $5,000,000 the contractor shall provide a Superintendent for the Contractor's staff who shall be in attendance at the site throughout the active performance of the Work until Substantial Completion. Upon Substantial Completion the contractor shall provide a supervisor who shall be in attendance at the site throughout the active performance of the Work until Physical Completion. The Superintendent shall have the authority to direct the Work, attend all project meetings, and coordinate the Work of subcontractors. The Contractor shall also provide a Project Manager who shall attend project meetings, maintain submittal and approval system, and be responsible for change order/field order responses and negotiations. The Contractor shall provide required information to the Director's Representative for the Project Schedule.

6.1.4 For contracts valued from $5,000,001 to $10,000,000 the contractor shall provide a Project Manager and Superintendent for the Contractor's staff that shall be in attendance at the site throughout the active performance of the Work until Substantial Completion. Upon Substantial Completion the contractor shall provide a supervisor who shall be in attendance at the site throughout the active performance of the Work until Physical Completion. The Superintendent shall have the authority to direct the Work, and coordinate the Work of subcontractors. The Project Manager shall attend project meetings, maintain the project schedule, maintain submittal and approval system, and be responsible for change order/field order responses and negotiations.

6.1.5 For contracts valued for more than $10,000,000 the contractor shall provide a Project Manager and Superintendent for the Contractor's staff who shall be in attendance at the site throughout the active performance of the Work until Substantial Completion. Upon Substantial Completion the contractor shall provide a supervisor who shall be in attendance at the site throughout the active performance of the Work until Physical Completion. The Superintendent shall have the authority to direct the Work, attend all project meetings, and coordinate the Work of subcontractors. The Project Manager shall attend project meetings, maintain the project schedule, maintain submittal and approval system, and be responsible for change order/field order responses and negotiations. If at any time there are more than five subcontractors performing work on the site simultaneously an additional Superintendent is required coordinate their Work.

6.2 Should the Director deem any employees of the Contractor incompetent or negligent or for any cause unfit for their duty, the Contractor shall dismiss them and they shall not again be employed on the Work.

6.3 Before any part of the Contract shall be sublet or material purchased, the Contractor shall submit to the Director in writing the name of each proposed subcontractor and supplier and obtain the Director's written consent to such subcontractor and supplier. The names shall be submitted in ample time to permit acceptance or rejection of each proposed subcontractor and supplier by the Director or Contracting Officer without causing delay in the work of the Project. The Contractor shall promptly furnish such information as the Director or Contracting Officer may require concerning the proposed subcontractor's and supplier's ability and qualifications, and Minority/Women Owned Business Enterprises Status. Each request for approval of a subcontractor whose subcontract will be valued at $10,000.00 or more shall also be accompanied by a NYS Vendor Responsibility Questionnaire - For-Profit Construction properly completed and executed by the proposed subcontractor.

6.4 The Contractor's use of subcontractors shall not diminish the Contractor's obligations to complete the Work in accordance with the Contract. The Contractor shall control and coordinate the Work of its subcontractors.

6.5 The Contractor shall be responsible for informing its subcontractors and suppliers of all the terms, conditions and requirements of the Contract Documents including, but not limited to the General Conditions, Supplementary Conditions, the Drawings and Specifications, Appendix A, and changes made by Addenda.

ARTICLE 7 - USE OF PREMISES

7.1 If the Premises are occupied, the Contractor, its subcontractors, and their employees shall comply with the regulations governing access to, operation of, and conduct while in or on the Premises and shall perform

the Work in such a manner as not to unreasonably interrupt or interfere with the conduct of business.

7.2 Any request received by the Contractor from any source other than the Director or the Director's Representative to change the Work or its sequence shall be referred to the Director's Representative for determination.

7.3 The Contractor, its subcontractors and their employees shall not have access to or be admitted to any area of the Premises outside the Site except with the written permission of the Director's Representative.

ARTICLE 8 - PERMITS AND COMPLIANCE

8.1 The Contractor shall obtain, maintain and pay for all permits and licenses legally required and shall give all notices, pay all fees and comply with all laws, rules and regulations applicable to the Work at no additional cost.

ARTICLE 9 - INSPECTION AND ACCEPTANCE

9.1 The Director's Representative will inspect and test the Work at reasonable times at the Site, unless the Director determines to make an inspection or test at a place of production, manufacture or shipment. Such inspection or test shall be conclusive as to whether the material and workmanship inspected or tested conforms to the requirements of the Contract. Such inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Director to reject the completed Work.

9.2 The Contractor shall, without charge, promptly correct any Work the Director's Representative finds does not conform to the Contract Documents unless in the public interest the Director consents to accept such Work with an appropriate adjustment on the Contract sum and/or to any terms and conditions of the Contract. The Contractor shall promptly remove rejected material from the Premises.

9.3 If the Contractor does not promptly correct rejected Work including the work of other sub-contractors destroyed or damaged by removal, replacement, or correction, the Director may (1) correct such Work and charge the cost thereof to the Contractor; or (2) terminate the Contract in accordance with Article 13 of the General Conditions.

9.4 The Contractor shall furnish promptly without additional charge all facilities, labor, material and equipment reasonably needed to perform in a safe and convenient manner such inspections and tests as the Director's Representative requires.

9.5 The Contractor shall keep the Director's Representative informed of the progress of the Contractor's Work and particularly when the Contractor intends to cover Work not yet inspected or tested. All inspection and tests by the Director's Representative shall be performed in such manner as not to unreasonably delay the Work.

9.5.1 The Contractor shall be responsible for all required tests and appropriate test schedules, approvals and inspections pursuant to the Contract Documents.

9.5.2 The Contractor shall be back-charged with any cost of inspection when the Work is not ready at the time specified by the Director's Representative for inspection, or for deficient work that shall require re-testing.

9.6 Should the Director's Representative determine at any time before acceptance of the entire Work to examine Work already completed by removing, uncovering or testing the same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, materials and equipment to conduct such inspection, examination or test. If such Work is found to be defective or nonconforming in any material respect, the Contractor shall defray all the expenses of such examination and satisfactory reconstruction. If the Work is found to meet the requirements of the Contract Documents, the Contractor shall be compensated for the additional services involved in such examination and reconstruction by order on contract and, if completion of the Work has been delayed thereby, shall receive a suitable extension of time.

9.7 No previous inspection or certificates of payment shall relieve the Contractor from the obligation to perform the Work in accordance with the Contract Documents. The final payment shall not relieve the Contractor of the responsibility for failing to comply with the Contract Documents.

9.8 The Contractor shall remedy all defects, paying the cost of any damage to other work or property of the State resulting there from, which shall appear within a period of one year from the date of physical completion.

9.9 Contractor warrants that Product(s) furnished pursuant to this Contract shall, when used in accordance with the Product documentation, be able to accurately process date/time data (including, but not limited to, calculating, comparing, and sequencing) transitions, including leap year calculations. Where a Contractor proposes or an acquisition requires that specific Products must perform as a package or system, this warranty shall apply to the Products as a system.

9.9.1 Where Contractor is providing ongoing services, including but not limited to: i) consulting, integration, code or data conversion, ii) maintenance or support services, iii) data entry or processing, or iv) contract administration services (e.g. billing, invoicing, claim processing), Contractor warrants that services shall be provided in an accurate and timely manner without interruption, failure or error due to the inaccuracy of Contractor's business operations in processing date/time data (including, but not limited to, calculating, comparing, and sequencing) various date/time transitions, including leap year calculations. Contractor shall be responsible for damages resulting from any delays, errors or untimely performance resulting there from, including but not limited to the failure or untimely performance of such services.

9.9.2 This Date/Time Warranty shall survive beyond termination or expiration of this contract through: a) ninety (90) days or b) the Contractor's or Product manufacturer/developer's stated date/time warranty term, whichever is longer. Nothing in this warranty statement shall be construed to limit any rights or remedies otherwise available under this Contract for breach of warranty.

ARTICLE 10 - ORDERS ON CONTRACT (CHANGE ORDERS)

10.1 The State may make changes by altering, adding to or deleting from the Work, and adjusting the Contract sum accordingly. All changed Work shall be executed in conformity with the terms and conditions of the Contract Documents unless otherwise provided in the order on contract. Any change in the Contract sum or time for completion of the described work of the order on contract shall be contained in the order on contract. Any change in schedule resulting from an order on contract will be issued in accordance with the provisions of Paragraphs 4.6 and 13.5 of these General Conditions.

10.2 No written or oral instructions shall be construed as directing a change in the Work unless in the form of an order on contract signed by the Contracting Officer. The order on contract shall describe or enumerate the Work to be performed, state the amount (if any) to be added to or deducted from the Contract sum and state the time allowed (if any) for the performance of the changed work. If the extent or cost of the Work is not determinable until after the changed Work is performed, the order on contract shall specify the method for determining the cost and extent of the changed Work when completed. If the Contractor disagrees as to any element of the order on contract, the Contractor shall promptly indicate such disagreement in writing by certified mail directed to the Contracting Officer and shall promptly proceed in accordance with the order on contract. The Contractor's letter of disagreement shall identify by number the order on contract with which the Contractor is disagreeing, the elements with which the Contractor disagrees and a statement as to why there is a disagreement on each element. The letter of disagreement shall be accompanied by documentation of every material element of the Contractor's basis for disagreement. The Contracting Officer shall promptly review the Contractor's letter and supporting documentation and advise the Contractor in writing of any modifications to the order on contract or of the confirmation of the order on contract as issued. The Contracting Officer may, in the exercise of discretion, conduct informal discussions or meetings with the Contractor and/or State Officials, employees or agents prior to rendering a decision.

10.3 If the Contractor is required to perform Work for which the Contractor believes it is entitled to an order on contract, the Contractor shall give the Director prompt written notice and await instructions before proceeding to execute such Work. The Contractor shall thereafter proceed diligently with the performance of the contract in accordance with the Director's instructions. The Contractor shall maintain complete cost records including but not limited to time and payroll records, material invoices and delivery tickets, equipment rental and purchase invoices for itself and all subcontractors, suppliers and material-men when the Contractor performs work which the Contractor believes is extra or additional work. Failure to maintain such records shall waive any right to extra and additional costs beyond those costs supported by actual cost records.

10.4 The Contracting Officer shall determine the value of any order on contract by one or more of the methods provided in Division 01 - General Requirements.

10.5 Irrespective of the method used or to be used by the State in determining the value of a change order, the Contractor shall after receipt of a request, promptly submit to the State a detailed breakdown of the Contractor's estimate of the value of the omitted or extra work. The Contractor shall submit evidence, satisfactory to the Contracting Officer, to substantiate each and every item that constitutes his proposal for the change. The State shall promptly respond to such submission.

10.5.1 The contractor shall submit a responsive cost proposal to the Director's Representative in proper form subject to the provisions of this Article. The contractor shall respond no later than 30 days from the date of a "request for proposal" from the Director's Representative. Should the contractor fail to respond or submit the required cost proposal within the 30 day requirement, the State shall determine a fair market value for the work proposed and will issue an order on contract or field order to the contract. The Contractor, by failing to respond or provide an acceptable proposal; waives any claim or rights to any extra and or additional costs as determined by the Contracting Officer.

10.6 Unless otherwise specifically provided for in a change order, the compensation specified therein for extra work includes full payment for both the extra work covered thereby and for any damage or expense caused the Contractor by any delays to other work to be done under the Contract resulting from or on account of said extra work, and the Contractor waives all rights to any other compensation for said extra work, damage or expense.

10.7 No order on contract which creates a liability on the State shall be binding unless approved by the Office of the State Comptroller.

ARTICLE 11 - SITE CONDITIONS

11.1 If the Contractor encounters subsurface or other latent physical conditions at the Site which differ substantially from those shown, described or indicated in such information provided by the State or from any information which is a public record and which subsurface or other latent physical condition could not have been reasonably anticipated from that information or from the Contractor's own inspection and examination of the Site, the Contractor shall give immediate written notice to the Director before any such condition is disturbed. The Director shall promptly investigate and, if it is determined that the conditions substantially differ from those which should have been reasonably anticipated, shall make such changes in the Drawings and Specifications as may be required. If necessary, the Contract sum and completion date shall be adjusted, to reflect any increase or decrease in the cost of, or time required for, performance of the Contract.

ARTICLE 12 - SUSPENSION OF WORK

12.1 The Director may order the Contractor in writing to suspend, delay, or interrupt performance of all or any part of the Work for a reasonable period of time as the Director may determine.

12.2 Upon receipt of a suspension order, the Contractor shall, as soon as practicable, cease performance of the Work as ordered and take immediate affirmative measures to protect such Work from loss or damage.

12.3 The Contractor specifically agrees that a suspension, interruption or delay of the performance of the Work pursuant to this Article for a period or periods not exceeding thirty days in total shall not increase the cost of performance of the Work of this Contract other than costs directly related to demobilization and remobilization for the Work, temporary services costs, equipment rental which cannot be practically suspended and temporary protection measures which are unusual but necessary.

ARTICLE 13 - TIME OF COMPLETION AND TERMINATION FOR CAUSE

13.1 All time limits stated in the Contract are of the essence of the Contract.

13.2 Termination for Cause.

13.2.1 If in the judgment of the Group Director, the Contractor fails or refuses to prosecute the Work in accordance with the Contract, or is failing to complete the Work within the time provided by the Contract, the Group Director may terminate the Contract by written notice. In such event, the Group Director shall order the surety to complete the Work.

13.2.2 If it is determined after the award of the contract that there exists any cause of so serious or compelling a nature, including but not limited to, submission to a contracting agency of a false or misleading statement on a NYS Vendor Responsibility Questionnaire, or in some other form in connection with a bid for or award of this or any other contract or a request for approval of a subcontractor, that it raises questions about the present responsibility of a contractor or subcontractor, the Group Director may terminate the Contract by written notice. In such event, the Group Director may or may not in his sole discretion, order the surety to complete the Work.

13.2.3 The Director will notify the Contractor and Surety that the State is considering declaring the Contractor in default and will arrange a hearing with the Contractor and the Surety to discuss methods of performing and completing the contract work.

13.2.4 If the State formally declares the contractor in default the State will demand upon the Surety to complete any and all remaining work pursuant to the terms of the Contract and the Surety Takeover Guidelines incorporated as Appendix B. The Surety may undertake to perform and complete the work itself, through its agents or through independent contractors approved by the State. The State will agree to pay the balance of the Contract price to the Surety in accordance with the terms and conditions of the Contract or to the designee authorized in writing by the surety upon acceptance of the Surety's completion plan pursuant to Appendix B. incorporated herein.

13.2.5 The surety agrees to complete any investigation into the default of the Contractor and advise the Group Director as to its intended course of action within ten days of receipt of the written notice of default. That notice will detail the underlying reasons for the default and provide pertinent documentation including the surety takeover guidelines of the Contracting Officer. Any request by a surety for execution of a takeover agreement, shall be delivered to

the Contracting Officer for consideration, within the same ten day period. No changes in the terms and conditions of the Contract will be considered. All rights remedies and defenses of the parties are reserved and no rights, remedies or defenses of the parties are waived, by virtue of the surety's agreement to assume contract performance under the bond

13.2.6 The Surety may elect to forfeit the remaining penal sum of the Performance Bond within twenty days of notification of default by the State; with no additional penalties imposed, upon the execution of a release prepared by the State. The State will determine the value of the remaining Work based upon its investigation of the Work in place against payments previously authorized. As soon as practical the Surety will tender payment therefore to the State.

13.2.7 If the surety fails or refuses to complete the Work within twenty five days of the notification of the contractors default or if the Surety fails or refuses to complete the work within the time frames allotted by the State, the Group Director may take over the Work and prosecute it to completion by contract publicly let or otherwise, and may take possession of and utilize in completing the Work, such of the Contractor's materials, equipment and plant as may be on the Site of the Work. Whether or not the right to terminate is exercised, the Contractor and the Surety shall be liable for any damage to the State resulting from the failure or refusal to complete the Work in accordance with the Contract or the failure to complete the Work within the time provided by the Contract.

13.2.8 Should the Surety fail to commence the work the Group Director will notify the Surety that the State is considering declaring the Surety in default and will arrange a hearing with the Surety to discuss methods of performing and completing the contract work. It is the policy of the Office of General Services, Design and Construction Group to let a Contract for the remaining work after the 21st day of the demand upon the Surety to complete the Work pursuant to the terms and conditions of the Contract, and the Performance Bond filed with the Office of the State Comptroller.

13.3 The amount of Liquidated Damages shall be the product of $1,000.00 times the number of days of delay in physical completion of the work. Upon the assessment of such damages the State may withhold the sum of the damages contemplated from payments to avoid an overpayment to any firm where damages would apply.

13.3.1 If the Group Director terminates the Contract, damages shall consist of liquidated damages, if any, until the Work is physically completed, plus any increased costs occasioned the State in completing the Work.

13.3.2 If the Group Director does not terminate the Contract, the damages shall consist of liquidated damages, if any, until the Work is physically completed.

13.4 The Contract shall not be so terminated nor the Contractor charged with resulting damage if:

13.4.1 The delay in the completion of the Work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the State in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the State, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers, and

13.4.2 The Contractor notifies the Director in writing of the causes of delay within ten days from when the Contractor knew or ought to have known of any such delay.

13.5 The Director will ascertain the facts and the extent of the delay and extend the time for completing the Work when, in the Director's judgment, the findings of fact justify such an extension, and the Director's findings of fact shall be final and conclusive on the parties.

13.6 If after notice of termination of the Contract, it is determined for any reason the Contractor was not in default or that the delay was excusable, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the termination for convenience clause.

13.7 The rights and remedies of the State provided in this Article are in addition to any other rights and remedies provided by law or under this Contract.

13.8 The State, as defined in Article 2 of these General Conditions, reserves the right to terminate this contract in the event it is found that the certification filed by the offerer in accordance with New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, the Governmental Entity may exercise its termination right by providing written notification to the offerer in accordance with the written notification terms of the contract.

ARTICLE 14 - TERMINATION OF CONTRACTOR'S EMPLOYMENT FOR THE CONVENIENCE OF THE STATE OF NEW YORK

14.1 The Group Director may terminate this Contract whenever the public interest so requires by delivering to the Contractor a notice of termination specifying the extent to which performance of Work under the Contract is terminated and the date upon which such termination becomes effective. Upon receipt of the notice of termination, the Contractor shall act promptly to minimize the expenses resulting from such termination. The State shall pay the Contractor the sum of:

14.1.1 The costs actually incurred by the Contractor, subcontractors, and sub-subcontractors or their suppliers up to the effective date of such termination, and

14.1.2 The cost of settling and paying claims, provided the concurrence of the Contracting Officer is obtained prior to agreeing to any such settlement, arising out of the termination of Work under subcontracts or orders exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor prior to the effective date of the notice of termination of Work under this Contract, which amounts shall be included in the cost on account of which payment is made under 14.1.1 above, and

14.1.3 An amount determined by adding to the amount of the costs under 14.1.1 above a sum equal to 20% (comprised of 10% overhead and 10% profit) thereof, provided, however, that if it appears that the Contractor would have sustained a documentable loss on the entire Contract had it been completed, an appropriate adjustment shall be made reducing the amount to be paid under this Article to reflect the indicated rate of loss.

14.2 In no event shall the Contractor's compensation exceed the total Contract amount.

14.3 The detailed estimate or amount of progress payments made to the Contractor prior to the day termination was effective shall not be conclusive evidence of costs incurred but progress payments shall be offset against any payment which the State makes to the Contractor as a result of such termination.

ARTICLE 15 - DISPUTES

15.1 The Contractor specifically agrees to submit, in the first instance, any dispute or disagreement relating to the performance of this Contract to the Group Director, who shall render a decision in writing and furnish a copy thereof to the Contractor. The Contractor agrees that this clause does not apply to any dispute or disagreement which involves delay, acceleration, interference or any other act or omission constituting a breach of contract; any matter relating to extensions of time, bonuses or liquidated damages; to the value of any order on contract or field order (issued pursuant to Division 01 - General Requirements); any termination for cause or convenience; or to termination costs allowable pursuant to contract.

15.2 The Contractor must request such decision in writing by certified mail no more than fifteen days after the Contractor knew or ought to have known of the facts which are the basis of the dispute or disagreement. Such writing shall identify the nature of the dispute or disagreement; identify the person who rendered the decision or interpretation involved and the date of the decision or interpretation with which the Contractor disputes or disagrees, attaching a copy of such decision or interpretation; contain a statement of the contractual basis for the dispute or disagreement; and identify the relief sought.

15.3 The Group Director may cause an investigation to be made of the circumstances involving the dispute or disagreement and may cause a fact-finding proceeding to be conducted before rendering the decision.

15.4 The Contractor agrees that the decision of the Group Director shall be final and conclusive. Nothing in this Contract shall be construed as making final the decision of any administrative official upon a question of law.

ARTICLE 16 - STATUTORY REQUIREMENTS FOR UTILIZATION OF MINORITY AND WOMEN OWNED BUSINESS ENTERPRISES

16.1 Pursuant to Section 313 of Article 15-A of the Executive Law of the State of New York, the Director of the Division of Minority and Women's Business Development has promulgated rules and regulations (Parts 140 through 145 of Subtitle N of Title 9 New York Code of Rules and Regulations) (the "Regulations") for the purposes of ensuring that certified Minority and Women owned Business Enterprises shall be given the opportunity for meaningful participation in the performance of State contracts and to facilitate the award of a fair share of State contracts and subcontracts to such business enterprises.

16.2 The Contractor shall make a good faith effort to solicit active participation in the Work by enterprises identified in the directory of certified businesses obtainable from the Division of Minority and Women's Business Development, New York State Department of Economic Development.

16.3 The Contractor agrees, as a material condition of this contract, to be bound by the provisions of Section 316 of Article 15-A of the Executive Law of the State of

New York which relates to the resolution of disputes which may arise under this Article.

16.4 The Contractor agrees to include the provisions of Paragraphs 16.2 and 16.3 of these General Conditions in every subcontract it enters into as to Work in connection with this Contract in such a manner that the provisions will be binding upon such subcontractor. However, the provisions of this paragraph shall not be binding upon the Contractor or its subcontractors in the performance of work or the provision of services that are unrelated, separate or distinct from this Contract as expressed by its terms.

16.5 The Regulations referred to in Paragraph 16.1 of these General Conditions require, among other things, that a bidder or proposer for a State contract submit a utilization plan which shall identify certified Minority or Women Owned Business Enterprises which the bidder/proposer intends to use in connection with the performance of the proposed State contract. Such a utilization plan shall be submitted after bids are opened but prior to contract award.

16.5.1 Pursuant to the Regulations: (1) the Commissioner may require the submission by the Contractor of compliance reports relating to the implementation of and adherence to the utilization plan in performing the Contract; (2) the Commissioner shall allow the Contractor to apply for a partial or total waiver of the Minority and Women Owned Business participation requirements; (3) the Contractor may file a complaint with the Executive Director of the Division of Minority and Women's Business Development regarding a denial of a request for waiver of Minority and Women Owned Business participation requirements; (4) the Commissioner may file a complaint with the Executive Director of the Division of Minority and Women's Business Development in the event the Contractor fails to comply with the Minority and Women Owned Business participation requirements set forth in this Contract; and (5) the Commissioner may disqualify the Contractor's bid or proposal as being non-responsive for failure to remedy notified deficiencies contained in the Contractor's utilization plan after an administrative hearing on the record, reviewing all grounds for disqualification stated by the Commissioner and taking into consideration all the criteria set forth in Section 313 of the Executive Law.

16.5.2 The Contractor is referred to the entirety of the provisions of Section 316 of Article 15-A of the Executive Law of the State of New York and of the Regulations for the Contractor's full familiarization with their applicable provisions as terms of this Contract.

## ARTICLE 17 - COORDINATION OF SEPARATE CONTRACTS

17.1 The State may award other contracts which affect the Work of this Contract. In that event, the Contractor shall coordinate its Work with the work of other contractors in such manner as the State may direct. Each contractor shall control and coordinate the work of its subcontractors, if any. The State shall approve or require the modification of the work schedules of all contractors to the end that the Project may be progressed as expeditiously as the case permits.

17.2 If any part of the Work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and promptly report in writing to the Director's Representative any defects in such work. The Contractor's failure to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of the Contractor's Work.

17.3 The Director's Representative shall issue appropriate directions and take such other measures to coordinate and progress the Work as may be reserved to the State in the Contract, and which an ordinarily reasonable project owner in similar circumstances would be expected to take.

17.4 The award of more than one contract for the Project requires sequential or otherwise interrelated contractor operations, and will involve inherent delays in the progress of any individual contractor's work. Accordingly, the State does not guarantee the unimpeded operations of any contractor. The Contractor acknowledges these conditions, and understands that the Contractor shall bear the risk of all delays caused by the presence or operations of other contractors engaged by the State and delays attendant upon any State-approved construction schedule.

17.5 The State shall not be liable for delays which occur by reason of any contractor's failure to comply with directions of the State or because of the neglect, failure or inability of any contractor to perform its work efficiently.

17.6 The Contractor shall defend, indemnify and hold the State harmless from any and all claims or judgments of damages and from costs and expenses to which the State may be subjected or which it may suffer or incur by reason of or based upon an allegation of the Contractor's failure to promptly comply with the directions of the Director's Representatives.

17.7 Should the Contractor sustain any damage through any act or omission of any other contractor having a contract with the State for the performance of work upon the Site of work which may be necessary to

be performed for the proper prosecution of the Work to be performed hereunder, or through any act or omission of a subcontractor of such contractor, the Contractor shall have no claim against the State for such damage, but shall have a right to recover such damage from the other contractor under the provision similar to the following provision which has been or will be inserted in the contract with such other contractors.

17.8 Should any other contractor having or who shall hereafter have a contract with the State for the performance of work upon the Site sustain any damage through any act or omission of the Contractor hereunder or through any act or omission of any subcontractor of the Contractor, the Contractor agrees to reimburse such other contractor for all such damages and to indemnify and hold the State harmless from all such claims.

ARTICLE 17A - DELAYS

17A.1 For the purposes of this Contract, the term delay includes delay, disruption, interference, inefficiencies, impedance, hindrance and acceleration.

17A.2 The Contractor agrees to make claim only for additional costs as defined in Document 012200, section 1.01, paragraph H from causes listed below, attributable to delay in the performance of this contract, occasioned by any act or omission to act by the State or any of its representatives. The Contractor also agrees that delay from any other cause shall be compensated for solely by an extension of time to complete the performance of the work.

17A.2.1 The failure of the State to take reasonable measures to coordinate and progress the work.

17A.2.2 Extended delays attributable to the State in the review or issuance of orders on contract or field orders, in shop drawing reviews and approvals or as a result of the cumulative impact of multiple orders on contract, which constitute a qualitative change to the project work and which have a verifiable impact on project costs.

17A.2.3 The unavailability of the site for such an extended period of time which the Director determines to significantly affect the scheduled completion of the contract.

17A.2.4 The issuance by the Director of a stop work order relative to a substantial portion of work for a period exceeding thirty days.

17A.3 The Contractor shall provide "notice of claim" of an anticipated claim for delay to the Contracting Officer by personal service or certified mail no more than fifteen days after the Contractor knew or ought to have known of the facts which form the basis of the claim. The Contracting Officer shall acknowledge receipt of the Contractor's notice, in writing, within five days. The Contractor agrees that the State shall have no liability for any damages which accrue more than fifteen days prior to the delivery or mailing of the required notice. The notice shall at a minimum provide a description of any operations that were, are being, or will be delayed, the date(s) and reasons for the delay, and, to the extent known, the information required by Paragraph 17A.6 of these General Conditions. In no case, shall oral notice to the Director's Representative or contracting officer constitute notice under this provision or be deemed to constitute a waiver of the written notice requirement. In no case, shall written notice to the Director's Representative or any other individual other that the Contracting Officer constitute notice under this provision or be deemed to constitute a waiver of the written notice requirement. The Contracting Officer is located at the following location:

Division of Contract Administration
Contracting Officer
35th Floor, Corning Tower
Albany, New York 12242

17A.4 Failure by the Contractor to adequately progress the completion of the work will be considered in determining the causes of delay. For any claim asserted under this Article, the Contractor shall keep detailed written records of the costs and shall make them available to the Contracting Officer at any time for the purposes of audit and review. Failure by the Contractor to provide the required written notice or to maintain and furnish records of the costs of such claims to the Contracting Officer shall constitute a waiver of the claim.

17A.5 The provisions of this Article apply only to claims for extra or additional costs attributable to delay and do not preclude determinations by the Director allowing reimbursement for additional costs for extra work pursuant to Article 10 of these General Conditions.

17A.6 REQUIRED CONTENT OF CLAIM SUBMISSION.

17A.6.1 As noted in Paragraph 17.A.3 of these General Conditions, all claims for delay shall be submitted in writing to the Contracting Officer and must be in sufficient detail to enable the Contracting Officer to ascertain the basis and the amount of each claim. The following information shall be provided by the Contractor upon request of the Contracting Officer if not previously supplied:

a. A description of the operations that were delayed, the reasons for the delay and an explanation of how they were delayed.

b. A detailed factual statement of the claim providing all necessary dates, locations and items of work affected by the claim.

c. An as-built chart, "Critical Path Method" scheme or other diagram or chart depicting in graphic form how the operations were or are claimed to be adversely affected including the report and conclusions of all engineering and scheduling experts or other consultants, if any.

d. The date on which actions resulting in the claim occurred or conditions resulting in the claim became evident.

e. A copy of the approved project schedule and a copy of the "notice of claim" required for the specific claim by Paragraph 17A.3 of these General Conditions.

f. To the extent known, the name, function, and activity of each State official, employee or agent, involved in, or knowledgeable about facts that gave rise to such claim.

g. The name, function, and activity of each Contractor or subcontractor officer, or employee, involved in, or knowledgeable about facts that gave rise to such claim.

h. The identification of any pertinent documents, and the substance of any material oral communication relating to such claim.

i. The amount of additional compensation sought and a breakdown of that amount into the categories specified in Division 01 - General Requirements.

j. If an extension of time is also requested, the specific number of days for which it is sought and the basis for such request as determined by an analysis of the construction progress schedule.

17A.7 REQUIRED CERTIFICATION OF CLAIMS.

17A.7.1 When submitting any notice of claim or claim data, the Contractor must certify in writing and under oath:

a. That supporting data is accurate and complete to the Contractor's best knowledge and belief;

b. That the amount of the claim and the claim itself accurately reflects what the Contractor in good faith believes to be the State's liability.

17A.7.2 If the Contractor is an individual, the certification shall be executed by that individual. If the Contractor is not an individual, the certification shall be executed by a company official in charge of the Contractor's operations pertaining to this contract or an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.

17A.7.3 Failure to timely comply with any of the requirements of Article 17A for the submission of any claim for delay may constitute grounds for denial of such claim.

ARTICLE 18 - RESPONSIBILITY FOR DAMAGE

18.1 The Contractor shall faithfully perform and complete all of the Work required by the Contract, and has full responsibility for the following risks:

18.1.1 Loss or damage, direct or indirect, to any property owned by the State or to the Work including the building or structure in which the Work is being performed, or any other construction in progress whether being performed by any other contractor or the State, or to any plant, equipment, tools, materials or property furnished, used, installed or received by the Director under this Contract or any other contract. The Contractor shall bear all such risk of loss or damage, until all of the Work covered by the Contract has been finally accepted. In the event of such loss or damage the Contractor shall forthwith repair, replace, and make good any such loss or damage without additional cost.

18.1.2 Injury to persons (including death resulting there from), or damage to property caused by an occurrence arising out of the performance of this Contract for which the Contractor may be legally liable under the laws of torts.

18.2 The Contractor, however, shall not be responsible for damages resulting from faulty design or from willful acts of State officials or employees or from negligence resulting solely from acts or omissions of the State, its officers or employees. Nothing herein shall vest in third parties any right of action beyond such as may legally exist irrespective of this Article.

18.3 The Contractor shall indemnify and save harmless the State, its employees and agents from suits, actions, damages, and costs of every name and description relating to the performance of this Contract during its prosecution and until the acceptance thereof, and the State may retain such moneys from the amount due the Contractor as may be necessary to satisfy any claim for damages recovered against the State. The Contractor's obligations under this paragraph shall not be deemed waived by the failure of the State to retain the whole or any part of such moneys due the Contractor, nor shall such obligation be deemed limited or discharged by the enumeration or procurement of any insurance for liability for damages imposed by law upon the Contractor, subcontractor or the State.

ARTICLE 19 - INSURANCE - BUILDER'S RISK, LIABILITY AND WORKERS' COMPENSATION

19.1 Before commencing the Work and until the established Physical Completion date, all insurance required by the Contract shall be obtained at the sole cost and expense of the Contractor; and the Contractor shall furnish to the Contracting Officer a Certificate of

Insurance in a form satisfactory to the Contracting Officer showing that the Contractor has complied with this Article. Insurance shall be maintained with insurance carriers licensed to do business in New York State and acceptable to the Contracting Officer; shall be primary and non-contributing to any insurance or self insurance maintained by OGS; and shall be endorsed to provide written notice be given to the Contracting Officer at least thirty days prior to the cancellation, non-renewal, or material alteration of such policies, which notice, evidenced by return receipt of United States Certified Mail, any notice shall be addressed to:

Division of Contract Administration
Director
35th Floor, Corning Tower
Albany, New York 12242

19.1.1 The endorsement shall name The People of the State of New York, its officers, agents, employees and the assigned construction manager as additional insureds there under. This additional insured shall be primary and non-contributory. (General Liability Additional Insured Endorsement shall be on Insurance Service Office's (ISO) form number CG 20 10 11 85 and a copy of which shall be furnished along with the Certificate of Insurance.) The Contracting Officer may modify the provisions of this Article when deemed in the best interest of the State by order on contract or field order.

19.1.2 The Contractor, throughout the term of this Contract, or as otherwise required by this Contract, shall obtain and maintain in full force and effect on an occurrence form, the following insurance with limits not less than those described in this article, and as required by the terms of this Contract, or as required by law, whichever is greater. If such insurance contains an aggregate limit, it shall apply separately on a per job, per location basis.

19.1.3 The Contractor shall be solely responsible for the payment of all deductibles and Self Insured Retentions.

19.1.4 Not less than thirty days prior to the expiration date or renewal date of any insurance policies reflected on such certificates, the Contractor shall supply OGS updated replacement Certificates of Insurance, and amendatory endorsements.

19.2 The kinds and amount of insurance is as follows:

19.2.1 Workers' Compensation Insurance and Disability Benefits Law. A policy covering the obligations of the Contractor in accordance with the Workers' Compensation Law and the Disability Benefits Law covering all operations under the Contract, whether performed by the Contractor or by its subcontractor.

19.2.2 Commercial General Liability, and if necessary, Commercial Umbrella Liability Insurance with a limit of not less than $2,000,000 each occurrence. Such liability shall be written on the ISO occurrence form CG 00 01, or a substitute form providing equivalent coverages and shall cover liability resulting in Bodily Injury, Property Damage, Personal Injury or loss of use arising from premises operations, independent contractors, products-completed operations, broad form property damage, personal & advertising injury, cross liability coverage, liability assumed in a contract (including the tort liability of another assumed in a contract) and explosion, collapse & underground coverage.

If such insurance contains an aggregate limit, it shall apply separately on a per job, per location basis.

19.2.3 Comprehensive Business Automobile Liability, and if necessary, Commercial Umbrella Liability Insurance with a limit of not less than $2,000,000 each accident. Such insurance shall cover liability arising out of any automobile including owned, leased, hired and non-owned automobiles.

19.2.4 Builder's Risk: The Contractor shall be liable for any and all damages and losses to the Project prior to the State of New York's acceptance of the Project as fully completed except that the Contractor shall not be liable for:

19.2.4.1 Losses covered by the Builder's Risk property insurance provided by the State of New York; except that the Contractor shall be liable for the applicable deductible.

19.2.4.2 All policies shall be issued by insurance companies licensed to conduct such business under the laws of the State of New York, shall be written for the benefit of the State of New York and for the Contractor as their interests may appear, and shall run until the contract physical completion date. The State of New York must be listed as loss payee pursuant to this policy. Policies expiring on a fixed date before physical completion must be renewed and re-filed not less than thirty days before such expiration date.

19.2.5 If the work involves abatement, removal, repair, replacement, enclosure, encapsulation and/or disposal of any petroleum, petroleum product, hazardous material or substance including asbestos, lead or mold, and those as defined by applicable State and federal laws and regulations, the Contractor shall procure, or otherwise obtain through an approved subcontractor, and maintain in full force and effect throughout the term of the contract, and for two years after completion hereof, pollution legal liability insurance with limits of not less than $5,000,000, providing coverage for bodily injury and property

damage, including loss of use of damaged property or of property that has not been physically injured. Such policy shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants, including any loss, cost or expense incurred as a result of any cleanup of pollutants or in the investigation, settlement or defense of any claim, suit, or proceedings against OGS arising from Contractor's work. The State of New York shall be named as additional insured and this shall be primary.

19.2.5.1 If automobiles are to be used for transporting hazardous materials, the Contractor shall provide pollution liability broadened coverage for covered autos (endorsement CA 99 48) as well as proof of MCS 90.

19.3 The Contractor may provide the required proof of insurance on industry forms provided that no other endorsements exclude, delete or restrict those coverage's provided for by this article. It is required that companies affording coverage list the company name in full as filed with the New York State Insurance Department. The contract number and project location must be provided in order to approve the certificate.

19.4 Should the Contractor fail to provide or maintain any insurance required by law the Contract will be considered null and void. Further, no contractor is permitted to access the project site without providing proof of proper insurance to the Contracting Officer or his designated representative. No payments will be authorized by the Contracting Officer to any firm who fails to comply with the provisions of this Article.

ARTICLE 20 - OCCUPANCY PRIOR TO COMPLETION AND ACCEPTANCE

20.1 The State shall have the right to take possession of or use any completed or partially completed portion of the Work. Written notice of such possession shall be given to the Contractor by the Director. The notice shall identify the date when such possession shall commence and the area, equipment or system involved. Written notice shall also be given the Contractor for any cessation of such possession by the State. Such possession or use shall not be deemed an acceptance of any Work. While the State is in such possession, the Contractor, notwithstanding the provisions of Article 18 of the Contract, shall be relieved of the responsibility for loss or damage to the Work except for that resulting from the Contractor's fault or negligence. If such possession or use by the State delays the progress of the Work or causes additional expense to the Contractor, an adjustment in the Contract price and/or the time of completion shall be made and the Contract modified in writing accordingly. The provisions relating to an adjustment in the Contract price or the time of completion contained in this paragraph shall not apply to occupancy or possession after Substantial Completion.

ARTICLE 21 - PAYMENT

21.1 The Contractor shall submit monthly, or at more frequent intervals if permitted in writing by the Contracting Officer, a requisition for a progress payment to the designated payment office for Work performed and materials furnished up to the date of the requisition, less any amount previously paid to the Contractor. Except as otherwise provided by this Contract, the Contracting Officer shall approve and cause to be paid the requisition for the progress payment less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged and less any amount authorized by law to be retained. The requisition shall be in such form and supported by such evidence as the Contracting Officer may reasonably require. The designated payment office is listed as follows:

Division of Contract Administration
Bureau of Contract Performance
35th Floor, Corning Tower
Albany, New York 12242

21.1.1 For those contracts designated as Labor and Material reimbursement or similar type contracts, the contractor shall submit to the Contract Payment Audit Group no later than 60 days from the period of when the work occurred, acceptable proof of labor and material costs specific to the approved scope of work as verified by the Directors Representative, to the Contracting Officer for audit, verification and approval prior to the submission of any payment. The Contract Payment Audit Group is located at the following location:

Division of Contract Administration
Contract Payment Audit Group
35th Floor, Corning Tower
Albany, New York 12242

21.1.2 The submittal of cost for reimbursement to the Contractor shall be in such form and supported by such evidence as the Contracting Officer may reasonably require.

21.1.3 For those contracts designated as Electronic Contractor Requisition (ECR) eligible, if the contractor agrees to participate (participation is not mandatory – a contractor may still elect to submit paper requisitions ) , the contractor shall provide an Electronic Contractor Requisition (ECR) Program Certification form which shall become part of this agreement. The contractor further certifies that the individual certifying the requisition is duly authorized to undertake requisitioning transactions. The contractor understands that the State will rely on the information disclosed in the contractor's requisition consistent with all of the

provisions of this Article. A contractor need not submit electronic requisitions in order to receive electronic payments.

21.2 The Director or the Contracting Officer may refuse to approve the requisition or a portion of it if the Contractor is failing or refusing to prosecute the Work in accordance with the Contract.

21.3 Payment will be made for approved materials not yet incorporated in the Work which are in short and/or critical supply and for materials determined to be specifically fabricated for the project. Requisitions which require payment for materials shall be accompanied by a notarized statement certifying that the materials for which payment is requisitioned are the Contractor's property and have been suitably stored and insured. The Contractor shall provide such evidence of the value of the material stored as the Contracting Officer may reasonably require. The Contractor shall have full continuing responsibility to insure and protect such materials and maintain them in proper condition to fulfill Contract requirements when installed.

21.4 When the Work or major milestones thereof as contemplated by the terms of this Contract are substantially completed, the Contractor shall submit to the Contracting Officer a requisition for payment of the remaining amount of the Contract balance. Upon receipt of such requisition the Contracting Officer shall, except as otherwise provided by this Contract, approve and cause to be paid the remaining amount of the Contract balance less two times the value of any remaining items to be completed and an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. As the remaining items of Work are satisfactorily completed or corrected, the Contracting Officer shall cause to be paid, upon receipt of a requisition, for these remaining items less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged.

21.5 No more than 60 days after the issuance of the Physical Completion Report, the Contractor shall submit to the Contracting Officer or his designated representative a requisition for payment of the remaining Contract balance. Upon receipt of this requisition, the Contracting Officer shall, except as otherwise provided by this Contract, approve and cause such requisition to be paid less any amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. The Contractor waives any claim or right to payment of any contract balance which has not been requisitioned for payment within 60 days of the issuance of the Physical Completion Report.

21.6 The final certificate letter will not be issued until all the labor and material required by the Contract has been furnished and completed, all disputes and claims relating to the performance of the Contract considered and disposed of and all accounts for extra work and materials and allowances for omissions have been rendered and considered. The Contractor waives any claim or right to additional compensation which has not been submitted in writing via certified or registered mail to the Contracting Officer pursuant to Article 17A, within thirty days of the issuance of the Physical Completion Report.

21.7 The final certificate letter will constitute the acceptance of the Work by the State, except as to Work thereafter found to be defective. The date of such certificate shall be regarded as the date of acceptance of the Work.

21.8 No payment will be made to a foreign Contractor until it furnishes satisfactory proof that it has paid all taxes required of foreign Contractors under the provisions of the New York State Tax Law. A foreign Contractor as used in this paragraph shall mean a Contractor denominated "foreign" by the New York State Tax Law.

21.9 The contractor is advised that consistent with Subdivision 3-a, of Section 220 of the Labor Law, the filing of certified payroll records is a condition precedent to payment of any sums due and owing to any person performing work on this project. The failure to file pursuant to this section will result in a payment delay until such time as the filing occurs.

21.10 The Contractor acknowledges that it will not receive payment on any requests for payment unless the contractor complies with the State Comptroller's electronic payment deposit procedures Payments requested by the contractor will only be facilitated via electronic deposit, except where the Commissioner has expressly authorized payment by paper check.

ARTICLE 22 - AUDITS AND RECORDS

22.1 The Group Director, the Comptroller or their representatives shall have the right to examine all books, records, documents, and other data of the Contractor, subcontractors, material-men or suppliers relating to the bidding, pricing or performance of this Contract or any change or modification thereto for the purpose of evaluating the accuracy, completeness, and currency of the cost or pricing data submitted. This right of examination shall extend to all documents necessary to permit adequate evaluation of the cost or pricing data submitted along with the computations and projections used therein.

22.2 The above materials shall be made available at the office of the Contractor, subcontractors, material-men or suppliers at all reasonable times for inspection,

audit or reproduction until the expiration of six years from the date of the final certificate for the Contract.

22.3 If this Contract is completely or partially terminated, the records relating to the Work terminated shall be made available for a period of six years from the date of any resulting final settlement.

22.4 Records which relate to the Disputes Clause of this Contract or litigation or the settlement of claims arising out of the performance of this Contract shall be made available until such appeals, litigation or claims have been disposed of.

22.5 The Contractor shall insert a clause containing all of the provisions of Paragraphs 22.1 to 22.4 of these General Conditions in all subcontracts or purchase orders issued hereunder.

22.6 The Contractor shall make available to the Contracting Officer, upon written request, all records required to be kept by this Contract or by Article 3-A of the Lien Law. The failure to provide said records upon the receipt of the written request shall bar any recovery for claimed extra or additional costs under this Contract.

ARTICLE 23 – LABOR LAW PROVISIONS

23.1 The contractor shall post, in a location designated by the State, a copy of the New York State Department of Labor schedules of prevailing wages and supplements for this Project, a copy of all re-determinations of such schedules for the Project, the Workers' Compensation Law Section 51 notice, all other notices required by law to be posted at the Site, the Department of Labor notice that this Project is a public work project on which each worker is entitled to receive the prevailing wages and supplements for the occupation at which he or she is working, and all other notices which the State directs the contractor to post. The contractor shall provide a surface for such notices which is satisfactory to the State. The contractor shall maintain such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible or removed for any reason. The contractor shall post such notices before commencing any Work on the Site and shall maintain such notices until all Work on the Site is complete.

23.2 The contractor shall distribute to each worker for this Contract a notice, in a form provided by the State, that this Project is a public work project on which each worker is entitled to receive the prevailing wage and supplements for the occupation at which he or she is working. Worker includes employees of contractor and all Subcontractors and all employees of Suppliers entering the Site. Such notice shall be distributed to each worker before he or she starts performing any Work of this Contract. At the time of distribution, the contractor shall have each worker sign a statement, in a form provided by the State, certifying that the worker has received the notice required by this section, which signed statement shall be maintained with the payroll records required by Paragraph 23.3 of these General Conditions.

23.3 The contractor shall maintain on the Site the original certified payroll or certified transcripts thereof which the contractor and all of its Subcontractors are required to maintain pursuant to New York Labor Law Section 220. The contractor shall maintain with the payrolls or transcripts thereof, the statements signed by each worker pursuant to Paragraph 23.2 of these General Conditions.

23.4 A contractor or subcontractor who is required under New York Labor Law Section 220 to maintain transcripts of payroll records must submit to the contracting agency a transcript of the original payroll record within thirty days of issuance of its first payroll and every thirty days, thereafter. The copy of the payroll record must be subscribed and affirmed as true under penalty of perjury. The copy must include the contract number and should be directed to the Director's Representative at the job site. The Directors Representative is hereby designated as the individual responsible for the receipt, collection and review for authenticity of payroll records filed for this contract, consistent with Article 23.4, General Conditions and subparagraph (iii) and (iv) Section 220 Labor Law.

23.5 In accordance with New York Labor Law §222-H, the contractor agrees where the total cost of all work to be performed under the contract is at least two hundred fifty thousand dollars; all laborers, workers, and mechanics employed in the performance of this contract on the public work site, either by the contractor, sub-contractor or other person doing or contracting to do the whole or a part of the work contemplated by this contract, shall be certified prior to performing any work on the project as having successfully completed a course in construction safety and health approved by the United States department of labor's occupational safety and health administration that is at least ten hours in duration.

23.6 In accordance with New York Labor Law § 220 (3) (a), the Contractor and every sub-contractor agrees to notify all laborers, workers or mechanics in their employ in writing of the prevailing rate of wage for their particular job classification. Such notification shall be given to every laborer, worker or mechanic on their first pay stub and with every pay stub thereafter. At the beginning of performance of every public works contract, and with the first paycheck after July first of each year, the Contractor and every sub-contractor shall notify all laborers, workers, and mechanics in their employ in writing, in accordance with such form as is prescribed by the department, of the telephone number and address for the department. The notice shall also

inform each laborer, worker, or mechanic of his or her right to contact the department or some other representative if, at any time while working for the public works contractor or sub-contractor, he or she does not receive the proper prevailing rate of wages or supplements for his or her particular job classification that he or she is entitled to receive under the contract.

ARTICLE 24 - STATUTORY REQUIREMENTS FOR RESTRICTIONS ON CONTACTS DURING THE PROCUREMENT PROCESS AND DISCLOSURE OF CONTACTS AND RESPONSIBILITY OF OFFERERS MISCELLANEOUS PROVISIONS

24.1 New York State Finance Law §139-k requires that every procurement contract award subject to the provisions of State Finance Law §139-k or §139-j shall contain a certification by the offerer that all information provided to the procuring governmental agency with respect to State Finance Law §139-k is complete, true and accurate. The Contractor shall provide that certification in his contract or agreement.

24.2 New York State Finance Law

24.2.1 New York State Finance Law § 139-k(2) obligates a Governmental Entity to obtain specific information regarding prior non-responsibility determinations. This information must be collected in addition to the information that is separately obtained pursuant to State Finance Law § 163 (9). In accordance with State Finance Law § 139-k, an offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law § 139-j or (b) the intentional provision of false or incomplete information to a Governmental Entity.

24.2.2 As part of its responsibility determination, State Finance Law § 139-k(3) mandates consideration of whether an offerer fails to timely disclose or complete information regarding the above non-responsibility determination. In accordance with law, no procurement contract shall be awarded to any offerer that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the Procurement Contract to the Offerer is necessary to protect public property or public health safety, and that the Offerer is the only source capable of supplying the required Article of Procurement within the necessary timeframe. The required forms to be completed by the offerer must be submitted to the Governmental Entity conducting the government procurement. The Governmental Entity will have included the disclosure request in its solicitation of proposals or bid documents or specifications of contract documents, as applicable, for procurement contracts.

ARTICLE 25 – MISCELLANEOUS PROVISIONS

25.1 Appendix A, standard clauses for all N.Y. State contracts, is attached hereto and is made a part of this agreement as if set forth herein.

25.2 If, in carrying out this Work, a harmful dust hazard is created for which appliances or methods for the elimination of harmful dust have been approved by the Board of Standards and Appeals, then the Contractor shall install, maintain and effectively operate such appliances and methods during the life of this Contract; and in case of Contractor's failure to comply, as provided by Section 222-a of the Labor Law, the Contract shall be void.

25.3 RETAINED PERCENTAGES: The Contractor agrees that, if the Contract Documents for this Contract includes Performance and Payment Bonds, the State shall retain five percent of the amount of each progress payment in accordance with Section 139-f of the State Finance Law. The Contractor further agrees that, if the Contract Documents for this Contract do not include Performance and Payment Bonds, the State shall retain ten percent of the amount of each progress payment in accordance with Section 139-f of the State Finance Law.

25.4 DOMESTIC STEEL: The Contractor agrees, that if the value of this contract exceeds $100,000 all structural steel, reinforcing steel and other major steel items to be incorporated in the Work of this Contract shall be produced and made in whole or substantial part in the United States, its territories or possessions.

25.5 COMMENCEMENT OF ACTIONS: The time, as prescribed by law, within which an action on the contract against the Contractor must be commenced shall be computed from the completion of physical work. The Contractor may notify the State in writing that the physical work of the contract has been completed by specifying a completion date, which date shall be no more than thirty days previous to the date of such notice. The completion date set forth in such notice shall be deemed the date of completion of the physical work unless the State, within thirty days of receipt of such notice, notifies the Contractor in writing of its disagreement. Any notice pursuant to this paragraph shall be sent by the Contractor by Certified Mail and addressed to:

Division of Contract Administration
Contracting Officer
35th Floor, Corning Tower
Albany, New York 12242

25.5.1 In the event that the Contractor fails to send the notice provided for herein or the State disagrees in the manner provided for herein, the date of completion of the physical work shall be determined in any other manner provided by law.

25.6 WORKER'S COMPENSATION LAW: In accordance with Worker's Compensation Law (WCL) §141-b (Suspension and Debarment), any person subject to a final assessment of civil fines or penalties or a stop-work order, or that has been convicted of a misdemeanor for a violation of WCL §§ 26 (Enforcement of Payment in Default), 52 (Effect of Failure to Secure Compensation) or 131 (Payroll Records), and any substantially-owned affiliated entity of such person, shall be ineligible to submit a bid on or be awarded any such public work contract or subcontract with the State, any municipal corporation or public body for a period of one (1) year from the final determination or conviction. Any person convicted of a felony under Article 8 (Administration) of the WCL, or a misdemeanor under WCL §§125 (Job Description Prohibited Based on Prior Receipt of Benefits) and 125-a (Civil Enforcement) shall be ineligible to submit a bid or be awarded any public work contract or subcontract with the State, any municipal corporation or public body for a period of five (5) years from such conviction.

25.7 ENVIRONMENTAL CONSERVATION LAWS: The Contractor certifies and warrants that all heavy duty vehicles, as defined in New York State Environmental Law (ECL) section 19-0323, to be used under this Contract, will comply with the specifications and provisions of ECL section 19-0323 and any regulations promulgated pursuant thereto, which requires the use of BART and ULSD, unless specifically waived by NYSDEC. Qualification for a waiver under this law will be the responsibility of the Contractor.

25.8 REPORTING OF ILLEGAL ACTIVITY: During the term of the contract, the Contractor agrees to report any observed or suspected illegal activity of its employees, agents or other third parties, to the Contracting Officer at 518-474-0201, the Group Director, OGS Legal Services, the State Inspector General or other law enforcement agency. Failure to report criminal conduct associated with a contract awarded by the Office of General Services, will be considered a material breach of the contract and may provide grounds for disqualification of the subject Contractor or Subcontractor for award of future contracts. The Contractor will include the provisions of this section in every subcontract, in such a manner that the provisions will be binding upon each Subcontractor as to work performed in connection with the State contract.

# APPENDIX A

# STANDARD CLAUSES FOR NEW YORK STATE CONTRACTS

**PLEASE RETAIN THIS DOCUMENT
FOR FUTURE REFERENCE.**

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## STANDARD CLAUSES FOR NYS CONTRACTS

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State, whether a contractor, licenser, licensee, lessor, lessee or any other party):

**1. EXECUTORY CLAUSE.** In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

**2. NON-ASSIGNMENT CLAUSE.** In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the State's previous written consent, and attempts to do so are null and void. Notwithstanding the foregoing, such prior written consent of an assignment of a contract let pursuant to Article XI of the State Finance Law may be waived at the discretion of the contracting agency and with the concurrence of the State Comptroller where the original contract was subject to the State Comptroller's approval, where the assignment is due to a reorganization, merger or consolidation of the Contractor's business entity or enterprise. The State retains its right to approve an assignment and to require that any Contractor demonstrate its responsibility to do business with the State. The Contractor may, however, assign its right to receive payments without the State's prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

**3. COMPTROLLER'S APPROVAL.** In accordance with Section 112 of the State Finance Law, if this contract exceeds $50,000 (or $75,000 for State University of New York or City University of New York contracts for goods, services, construction and printing, and $150,000 for State University Health Care Facilities) or if this is an amendment for any amount to a contract which, as so amended, exceeds said statutory amount, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds $25,000, it shall not be valid, effective or binding upon the State until it has been approved by the State Comptroller and filed in his office. Comptroller's approval of contracts let by the Office of General Services, either for itself or its customer agencies by the Office of General Services Business Services Center, is required when such contracts exceed $85,000. Comptroller's approval of contracts established as centralized contracts through the Office of General Services is required when such contracts exceed $125,000, and when a purchase order or other procurement transaction issued under such centralized contract exceeds $200,000.

**4. WORKERS' COMPENSATION BENEFITS.** In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

**5. NON-DISCRIMINATION REQUIREMENTS.** To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment, nor subject any individual to harassment, because of age, race, creed, color, national origin, citizenship or immigration status, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or domestic violence victim status or because the individual has opposed any practices forbidden under the Human Rights Law or has filed a complaint, testified, or assisted in any proceeding under the Human Rights Law. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of $50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation.

**6. WAGE AND HOURS PROVISIONS.** If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the

employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by the State of any State approved sums due and owing for work done upon the project.

**7. NON-COLLUSIVE BIDDING CERTIFICATION.** In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of bids, Contractor affirms, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further affirms that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the State a non-collusive bidding certification on Contractor's behalf.

**8. INTERNATIONAL BOYCOTT PROHIBITION.** In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds $5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2 NYCRR § 105.4).

**9. SET-OFF RIGHTS.** The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State agency, its representatives, or the State Comptroller.

**10. RECORDS.** The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, the "Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The State shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate State official, in writing, that said records should not be disclosed; and (ii) said records shall be sufficiently identified; and (iii) designation of said records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the State's right to discovery in any pending or future litigation.

**11. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION.** (a) Identification Number(s). Every invoice or New York State Claim for Payment submitted to a New York State agency by a payee, for payment for the sale of goods or services or for transactions (e.g., leases, easements, licenses, etc.) related to real or personal property must include the payee's identification number. The number is any or all of the following: (i) the payee's Federal employer identification number, (ii) the payee's Federal social security number, and/or (iii) the payee's Vendor Identification Number assigned by the Statewide Financial System. Failure to include such number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or Claim for Payment, must give the reason or reasons why the payee does not have such number or numbers.

(b) Privacy Notification. (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law. (2) The personal information is requested by the purchasing unit of the agency contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in the Statewide Financial System by the Vendor Management Unit within the Bureau of State Expenditures, Office of the State Comptroller, 110 State Street, Albany, New York 12236.

**12. EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN.** In accordance with Section 312 of the Executive Law and 5 NYCRR Part 143, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of $25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of $100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of $100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then the following shall apply and by signing this agreement the Contractor certifies and affirms that it is Contractor's equal employment opportunity policy that:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State contracts and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment, employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) at the request of the contracting agency, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "(a), (b) and (c)" above, in every subcontract over $25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State. The State shall consider compliance by a contractor or subcontractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this clause. The contracting agency shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, the contracting agency shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Department of Economic Development's Division of Minority and Women's Business Development pertaining hereto.

**13. CONFLICTING TERMS.** In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

**14. GOVERNING LAW.** This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

**15. LATE PAYMENT.** Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article 11-A of the State Finance Law to the extent required by law.

**16. NO ARBITRATION.** Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized), but must, instead, be heard in a court of competent jurisdiction of the State of New York.

**17. SERVICE OF PROCESS.** In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

**18. PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS.** The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of Section 165 of the State Finance Law, (Use of Tropical Hardwoods) which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in § 165 State Finance Law. Any such use must meet with the approval of the State; otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

**19. MACBRIDE FAIR EMPLOYMENT PRINCIPLES.** In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that the Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

**20. OMNIBUS PROCUREMENT ACT OF 1992.** It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority- and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business and Technology Development
625 Broadway
Albany, New York 12245
Telephone: 518-292-5100

A directory of certified minority- and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
633 Third Avenue 33rd Floor
New York, NY 10017
646-846-7364
email: mwbebusinessdev@esd.ny.gov
https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp

The Omnibus Procurement Act of 1992 (Chapter 844 of the Laws of 1992, codified in State Finance Law § 139-i and Public Authorities Law § 2879(3)(n)–(p)) requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than $1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority- and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to the State;

(b) The Contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

**21. RECIPROCITY AND SANCTIONS PROVISIONS.** Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively, codified in State Finance Law § 165(6) and Public Authorities Law § 2879(5)) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 2023, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii.

**22. COMPLIANCE WITH BREACH NOTIFICATION AND DATA SECURITY LAWS.** Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law §§ 899-aa and 899-bb and State Technology Law § 208).

**23. COMPLIANCE WITH CONSULTANT DISCLOSURE LAW.** If this is a contract for consulting services, defined for purposes of this requirement to include analysis, evaluation, research, training, data processing, computer programming, engineering, environmental, health, and mental health services, accounting, auditing, paralegal, legal or similar services, then, in accordance with Section 163 (4)(g) of the State Finance Law (as amended by Chapter 10 of the Laws of 2006), the Contractor shall timely, accurately and properly comply with the requirement to submit an annual employment report for the contract to the agency that awarded the contract, the Department of Civil Service and the State Comptroller.

**24. PROCUREMENT LOBBYING.** To the extent this agreement is a "procurement contract" as defined by State Finance Law §§ 139-j and 139-k, by signing this agreement the contractor certifies and affirms that all disclosures made in accordance with State Finance Law §§ 139-j and 139-k are complete, true and accurate. In the event such certification is found to be intentionally false or intentionally incomplete, the State may terminate the agreement by providing written notification to the Contractor in accordance with the terms of the agreement.

**25. CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS.**
To the extent this agreement is a contract as defined by Tax Law § 5-a, if the contractor fails to make the certification required by Tax Law § 5-a or if during the term of the contract, the Department of Taxation and Finance or the covered agency, as defined by Tax Law § 5-a, discovers that the certification, made under penalty of perjury, is false, then such failure to file or false certification shall be a material breach of this contract and this contract may be terminated, by providing written notification to the Contractor in accordance with the terms of the agreement, if the covered agency determines that such action is in the best interest of the State.

**26. IRAN DIVESTMENT ACT.** By entering into this Agreement, Contractor certifies in accordance with State Finance Law § 165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerers pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at: https://ogs.ny.gov/iran-divestment-act-2012

Contractor further certifies that it will not utilize on this Contract any subcontractor that is identified on the Prohibited Entities List. Contractor agrees that should it seek to renew or extend this Contract, it must provide the same certification at the time the Contract is renewed or extended. Contractor also agrees that any proposed Assignee of this Contract will be required to certify that it is not on the Prohibited Entities List before the contract assignment will be approved by the State.

During the term of the Contract, should the state agency receive information that a person (as defined in State Finance Law § 165-a) is in violation of the above-referenced certifications, the state agency will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then the state agency shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

The state agency reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

**27. ADMISSIBILITY OF REPRODUCTION OF CONTRACT.** Notwithstanding the best evidence rule or any other legal principle or rule of evidence to the contrary, the Contractor acknowledges and agrees that it waives any and all objections to the admissibility into evidence at any court proceeding or to the use at any examination before trial of an electronic reproduction of this contract, in the form approved by the State Comptroller, if such approval was required, regardless of whether the original of said contract is in existence.

1. If the Contractor performs the Contract, the Surety and the Contractor shall have no obligation under the Performance Bond.

2. The Surety's obligation under this Bond shall arise after:

2.1 The State has notified the Contractor and the Surety in writing that the State is considering declaring a Contractor in default, or

2.2 The State has declared a Contractor in default and formally terminated the Contractor's right to complete the Contract, and

2.3 The State has agreed to pay the Balance of the Contract Price to the Surety or to a Contractor selected to complete the Contract in accordance with the terms of the Contract with the State.

3. The Surety shall promptly and at its own expense, take the following actions:

3.1 Undertake to perform and complete the Contract, through its agent or retained contractor; according to the following schedule:

Day 1-10 Immediately begins it investigation Advises OGS of its Representatives.

Day 10-25 Visits Site with OGS representatives to review the contract documents and completed work; and determines extent of acceptable Work.

Day 25-30 Submits proposed completion contractor, completion plan, and CPM as required, for approval by the Office of General Services.

Day 30-44 As completing contractor, the surety or its representative, presents its list of subcontractors to OGS for approval. Additionally an Insurance Certificate naming the Surety and completion Contractor as named insured must be submitted to the Contracting Officer prior to the beginning any completion of the Work. The completion plan and schedule is returned to Surety.

Day 45 Surety begins the Completion of the Work.

4. If the Surety does not proceed with reasonable promptness, the Surety shall be deemed to be in default on the Bond, and the State shall be entitled to enforce any remedy available pursuant to the terms of the contract.

5. After the State has terminated the Contractor's right to complete the Contract, and if the Surety elects to act then the responsibilities of the Surety to the State shall not be greater than those of the Contractor under the Contract, and the responsibilities of the State to the Surety shall not be greater than those provided under the Contract. To the limit of the amount of this Bond, the Surety is obligated to correct defective work and complete the work of the Contract in a timely manner.

6. The penal sum of the Performance Bond furnished by the contractor to the State, approved and filed with the Office of the State Comptroller, in no way shall be impaired or affected by any other bond that may relate to the contract in question.

**END OF DOCUMENT**

**DOCUMENT 007305**

**SUPPLEMENTARY CONDITIONS - LIQUIDATED DAMAGES**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provisions of that part shall remain in effect.

## ARTICLE 2 - DEFINITIONS

2.11 Delete this Paragraph in its entirety and replace with the following:

2.11 The term "liquidated damages" means the amount of money to be assessed against the Contractor for delay in completion of the Work.

## ARTICLE 13 - TIME OF COMPLETION AND TERMINATION FOR CAUSE

13.3 Delete this Paragraph in its entirety and replace with the following:

13.3 Liquidated Damages: Should Contractor fail to substantially complete the Work within the time frame set forth in the contract, or as described in a subsequent Order(s) on Contract, the Group Director may assess Liquidated Damages for such failure in the amount of $1,000.00 per day until such time as the Group Director determines that the Work is substantially complete as defined in Section 2.21 herein. Should Contractor fail to achieve physical completion of the work within the time frame set forth in the contract, the Group Director may assess Liquidated Damages for such failure in the amount of $500.00 per day until such time as the Group Director determines that the Work is physically complete as defined in Section 2.12 herein. Notwithstanding the provisions of Article 21 herein, Contractor agrees that the Group Director may withhold the sum of the Liquidated Damages from payments to be made to Contractor as compensation to the State for administrative fees and public inconvenience.

**END OF DOCUMENT**

**DOCUMENT 007307**

**SUPPLEMENTARY CONDITIONS – MWBE-EEO**

**CONTRACTOR REQUIREMENTS AND PROCEDURES FOR PARTICIPATION BY NEW YORK STATE CERTIFIED MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provisions of that part shall remain in effect.

**ARTICLE 16 - REQUIREMENTS FOR UTILIZATION OF MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES (MWBEs)**

Add the following:

16.6 Participation by Minority Group Members and Women with Respect to State Contracts: Requirements and Procedures: General Provisions:

16.6.1 OGS is required to implement the provisions of New York State Executive Law Article 15-A and 5 NYCRR Parts 140-145 ("MWBE Regulations") for all State contracts as defined therein, with a value (1) in excess of $25,000 for labor, services, equipment, materials, or any combination of the foregoing or (2) in excess of $100,000 for real property renovations and construction (the "Work").

16.6.2 The Contractor agrees, in addition to any other nondiscrimination provision of the Contract and at no additional cost to OGS, to fully comply and cooperate with OGS in the implementation of New York State Executive Law Article 15-A and the regulations promulgated thereunder. These requirements include equal employment opportunities for minority group members and women ("EEO") and contracting opportunities for MWBEs. Contractor's demonstration of "good faith efforts" pursuant to 5 NYCRR §142.8 shall be a part of these requirements. These provisions shall be deemed supplementary to, and not in lieu of, the nondiscrimination provisions required by New York State Executive Law Article 15 (the "Human Rights Law") or other applicable federal, State or local laws.

16.6.3 Failure to comply with all of the requirements herein may result in a finding of non-responsiveness, a finding of non-responsibility, a breach of contract, leading to the withholding of funds, liquidated damages pursuant to Section 27.9 herein, and/or enforcement proceedings as allowed by the Contract and applicable law.

16.7 Contract Goals:

16.7.1 OGS hereby establishes an overall goal of 30% for MWBE participation, 15% for Minority-Owned Business Enterprises ("MBE") participation and 15% for Women-Owned Business Enterprises ("WBE") participation (based on the current availability of MBEs and WBEs). The total contract goal can be obtained by utilizing any combination of MBE and /or WBE participation for subcontracting and supplies acquired under this Contract.

16.7.2 For purposes of providing meaningful participation by MWBEs on the Contract and achieving the Contract Goals established in Section 16.7.1 hereof, Contractor should reference the directory of NYS Certified MBWEs found at the following internet address:

https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp?TN=ny&XID=2528.

The MWBE Regulations are located at 5 NYCRR §§ 140 – 145. Additionally, Contractor is encouraged to contact the Division of Minority and Women's Business Development (518) 292-5250; (212) 803-2414; or (716) 846-8200) to discuss additional methods of maximizing participation by MWBEs on the Contract.

16.7.3 Pursuant to 5 NYCRR §142.8, Contractor must document "good faith efforts" to provide meaningful participation by MWBEs as subcontractors or suppliers in the performance of the Contract.

16.7.4 In accordance with Executive Law Section 316-a and 5 NYCRR §142.13, the Contractor acknowledges that if it is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such a finding constitutes a breach of contract and the Contractor shall be liable to OGS for liquidated or other appropriate damages, as set forth herein.

16.7.5 In accordance with 5 NYCRR § 142.8, Contractors must document their good faith efforts toward utilizing MWBEs on the Contract. Evidence of required good faith efforts shall include, but not be limited to, the following:

a. A list of the general circulation, trade, and MWBE-oriented publications and dates of publications in which the Contractor solicited the participation of certified MWBEs as subcontractors/suppliers, copies of such solicitations, and any responses thereto.

b. A list of certified MWBEs appearing in the Empire State Development ("ESD") MWBE directory that were solicited for this Contract. Provide proof of dates or copies of the solicitations and copies of the responses made by the certified MWBEs. Describe specific reasons that responding certified MWBEs were not selected.

c. Descriptions of the Contract documents/plans/specifications made available to certified MWBEs by the Contractor when soliciting their participation and steps taken to structure the scope of work for the purpose of subcontracting with, or obtaining supplies from, certified MWBEs.

d. A description of the negotiations between the Contractor and certified MWBEs for the purposes of complying with the MWBE goals of this Contract.

e. Dates of any pre-bid, pre-award, or other meetings attended by Contractor, if any, scheduled by OGS with certified MWBEs whom OGS determined were capable of fulfilling the MWBE goals set in the Contract.

f. Other information deemed relevant to the request.

16.7.6 The goal for participation in the conduct of the Work is expressed as a percentage equal to the dollar value of the Work performed divided by the Contract Sum. Where the cost to the Contractor of a single item of equipment exceeds twenty-five percent (25%) of the total contract price and where the Contractor has shown good faith efforts to obtain such equipment from MWBE manufacturers and suppliers, and was unsuccessful in obtaining the equipment from an MWBE, the cost of such equipment shall be deducted from the contract sum prior to computing the MWBE participation.

16.7.7 The MWBE utilization credit for Work performed by MWBEs will be determined as follows:

a. Where an MWBE is not the Contractor - MWBE utilization credit will vary depending on how the MWBE performs Work under the Contract, as follows:

i. Where the MWBE performs Work under the Contract as a subcontractor, MBE or WBE utilization credit will be 100% of the dollar value of the Work performed by the MBE or WBE.

ii. Where the MWBE performs Work under the Contract as a manufacturer, MBE or WBE utilization credit will be 100% of the dollar value of the Work performed by the MBE or WBE.

iii. Where the MWBE assists in the performance of the Work under the Contract as a supplier, MBE or WBE utilization credit will be 60% of the dollar value of the Work performed by the MBE or WBE.

iv. Where the MWBE assists in the performance of the Work under the Contract as a broker, MBE or WBE utilization credit will be equal to the percentage of the commission, or the mark-up percentage, of the items brokered, applied to the dollar value of the Work performed by the MBE or WBE.

b. Where the Contractor is a joint venture including one or more MWBEs as joint venturers, MBE or WBE utilization credit will be the Contract Sum multiplied by the percentage of the joint venture's profits (or losses) that are to accrue to the MWBE joint venturer(s) under the joint venture agreement.

c. Where any MWBE is the Contractor or where the Contractor is a joint venture consisting entirely of MWBEs, and the Contractor can document good faith efforts to subcontract to MWBE subcontractors and/or suppliers - the Contract Sum.

Add the following articles:

**ARTICLE 26 – EQUAL EMPLOYMENT OPPORTUNITY (EEO)**

26.1 The provisions of Article 15-A of the Executive Law and the rules and regulations promulgated thereunder pertaining to equal employment opportunities for minority group members and women shall apply to all Contractors, and any subcontractors, awarded a subcontract over $25,000 for labor, services, including legal, financial and other professional services, travel, supplies, equipment, materials, or any combination of the foregoing, to be performed, or rendered or furnished to, the contracting State agency ("the Work") except where the Work is for the beneficial use of the Contractor.

26.1.1 Contractor and Subcontractors shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability, or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, and rates of pay or other forms of compensation. This requirement does not apply to: (i) the performance of work or the provision of services or any other activity that is unrelated, separate, or distinct from the Contract; or (ii) employment outside New York State.

26.1.2 By entering into this Contract, Contractor certifies that the text set forth in clause 12 of Appendix A, attached hereto and made a part hereof, is Contractor's equal employment opportunity policy. In addition, Contractor agrees to comply with the Non-Discrimination Requirements set forth in clause 5 of Appendix A.

The Contractor will include the provisions of Clause 26.1.2 and Clause 26.3 of this Article, which provides for relevant provisions of the Human Rights Law, in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the Contract.

26.2 New York State Contract System Workforce Utilization Reporting Module (Construction)

The Contractor shall submit, and shall require each of its subcontractors to submit, a Workforce Audit throughout the term of this Contract, by the 10th day of each month to report the actual workforce utilized during the previous month in the performance of the Contract by the specified categories listed including ethnic background, gender, and Federal

occupational categories. Contractor shall coordinate with its subcontractors to ensure that all workers associated with this Contract are properly counted and reported. To prepare the report, Contractor and its subcontractors shall use the New York State Contract System Workforce Audit Module found at the following website:

**https://ny.newnycontracts.com/**

The Workforce Audit must be submitted electronically in the New York State Contract System (NYSCS). Separate audits shall be completed by Contractor and all subcontractors. In limited instances, the Contractor or subcontractor may not be able to separate out the workforce utilized in the performance of the Contract from its total workforce. When a separation can be made, the Contractor or subcontractor shall submit the Workforce Audit and indicate that the information provided relates to the actual workforce utilized on the Contract. When the workforce to be utilized on the Contract cannot be separated out from the Contractor's or subcontractor's total workforce, the Contractor or subcontractor shall submit the Workforce Audit and indicate that the information provided is the Contractor's or subcontractor's total workforce during the subject time frame, not limited to work specifically performed under the Contract.

26.3 Contractor shall comply with the provisions of the Human Rights Law and all other State and Federal statutory and constitutional non-discrimination provisions. Contractor and subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

## ARTICLE 27- MWBE COMPLIANCE

27.1 By entering into a Contract with OGS, Contractor certifies that it has submitted a completed MWBE Utilization Plan via the New York State Contract System (NYSCS) prior to contract award and will follow such Plan for the performance of MWBEs on the Contract pursuant to the prescribed MWBE goals set forth in Section 16.7.1 of this Supplement. The NYSCS may be accessed at **https://ny.newnycontracts.com**. The Utilization Plan shall list the MWBEs the Bidder intends to use to perform the Contract, a description of the Contract scope of work the Bidder intends the MWBE to perform to meet the goals on the Contract, and the estimated, or if known, actual dollar amounts to be paid to an MWBE. If Contractor is unable to submit such Plan through the NYSCS, Contractor certifies that it used Form BDC 328 (Contractor's Utilization Plan) to submit the Plan. The BDC 328 form is available for download at https://ogs.ny.gov/mwbe/forms.

27.2 By entering into the Contract, Bidder/Contractor understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR § 140.1, may be applied towards the achievement of the applicable MWBE participation goal. When an MWBE is serving as a broker on the Contract, only 25 percent of all sums paid to a broker shall be deemed to represent the commercially useful function performed by the MWBE.

27.3 OGS will review the submitted MWBE Utilization Plan and advise the Bidder of OGS' acceptance or issue a notice of deficiency within 30 calendar days of receipt. Contractor understands that making false representations or including information evidencing a lack of good faith as part of, or in conjunction with, the submission of a Utilization Plan is prohibited by law and may result in penalties including, but not limited to, termination of a contract for cause, loss of eligibility to submit future bids, and/or withholding of payments.

27.4 Contractor further agrees that a failure to submit and/or use such MWBE Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, OGS shall be entitled to any remedy provided herein, including but not limited to, a finding of Contractor non-responsiveness.

27.5 Access to the Contractor's Books: The Contractor shall permit access to its books, records and accounts by the State for purposes of investigation to ascertain compliance with the provisions of this Article. The contractor shall include this provision in every subcontract so that such provision will be binding upon each subcontractor.

27.6 If the Contractor, after making good faith efforts, is unable to comply with MWBE goals, the Contractor may submit an Application for MWBE Waiver form (BDC 333) documenting good faith efforts by the Contractor to meet such goals. If the documentation included with the waiver request is complete, OGS shall evaluate the request and issue a written notice of acceptance or denial within twenty (20) business days of receipt.

27.7 If OGS, upon review of the MWBE Utilization Plan and updated Contractors list of Subcontractors and Suppliers determines that Contractor is failing or refusing to comply with the Contract goals and no waiver has been issued in regards to such non-compliance, OGS may issue a notice of deficiency to the Contractor. The Contractor must respond to the notice of deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

27.8 **Monthly MWBE Contractor Compliance Report**

27.8.1 In accordance with 5 NYCRR § 142.10, Contractor is required to report Monthly MWBE Contractor Compliance to OGS during the term of the Contract for the preceding month's activity, documenting progress made towards achievement of the Contract MWBE goals. OGS requests that all Contractors use the NYSCS to report subcontractor and supplier payments made by Contractor to MWBEs performing work under the Contract. The NYSCS may be accessed at **https://ny.newnycontracts.com**. This is a New York State-based system that all State agencies and authorities will be implementing to ensure uniform contract compliance reporting throughout New York State.

27.8.2 When a Contractor receives a payment from OGS under an OGS contract, it is the Contractor's responsibility to pay its subcontractors and suppliers in a timely manner. On or after the first day of each month, the Contractor will receive an e-mail or fax notification ("audit notice") indicating that a representative of its company needs to log-in to the NYSCS to report the company's MWBE subcontractor and supplier payments for the preceding month. The Contractor must also report when no payments have been made to a subcontractor or supplier in a particular month with entry of a zero dollar value in the NYSCS. Once subcontractor and supplier payments have been entered into the NYSCS, the subcontractor(s) and supplier(s) will receive an email or fax notification advising them to log into the NYSCS to confirm that they actually received the reported payments from the Contractor. It is the Contractor's responsibility to educate its MWBE subcontractors and suppliers about the NYSCS and the need to confirm payments made to them in the NYSCS.

27.8.3 To assist in the use of the NYSCS, OGS recommends that all Contractors and MWBE subcontractors and suppliers sign up for the following two webinar trainings offered through the NYSCS: "Introduction to the System – Vendor Training" and "Contract Compliance Reporting - Vendor Training" to become familiar with the NYSCS. To view the training schedule and to register visit:

**https://ny.newnycontracts.com/events.asp**.

27.8.4 As soon as possible after the Contract is approved, Contractor should visit https://ny.newnycontracts.com and click on "Account Lookup" to identify the Contractor's account by company name. Contact information should be reviewed and updated if necessary by choosing "Change Info." It is important that the staff member who is responsible for reporting payment information for the Contractor be listed as a user in the NYSCS. Users who are not already listed may be added through "Request New User." When identifying the person responsible, please add "- MWBE Contact" after their last name (i.e., John Doe – MWBE Contact) to ensure that the correct person receives audit notices from the NYSCS. NYSCS Technical Support should be contacted for any technical support questions by clicking on the links

for “Contact Us & Support” then “Technical Support” on the NYSCS website.

27.8.5 If Contractor is unable to report MWBE Contractor Compliance via the NYSCS, Contractor must submit Contractor’s Monthly Payment Report on Form BDC 58 to OGS, by the 10th day of each month during the term of the Contract, for the preceding month’s activity to: OGS OBD, 29th Floor Corning Tower, Empire State Plaza, Albany, NY 12242. Phone: 518-486-9284; Fax: 518-486-9285.

27.8.6 It is the Contractor’s responsibility to report subcontractor and supplier payments. Failure to respond to payment audits in a timely fashion through the NYSCS, or by paper to OGS, may jeopardize future payments pursuant to the MWBE liquidated damages clause in Section 27.9 below.

27.9 Liquidated Damages – MWBE Participation

27.9.1 Where OGS determines that Contractor is not in compliance with the requirements of the Contract and Contractor refuses to comply with such requirements, or if Contractor is found to have willfully and intentionally failed to comply with the MWBE participation goals, Contractor shall be obligated to pay liquidated damages to OGS.

27.9.2 Such liquidated damages shall be calculated as an amount equaling the difference between:

a. All sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and

b. All sums actually paid to MWBEs for work performed or materials supplied under the Contract.

27.9.3 After the Contractor has been afforded the process it is due, if OGS determines that Contractor is liable for liquidated damages and such identified sums have not been withheld by OGS, Contractor shall pay such liquidated damages to OGS within sixty (60) days after they are assessed. Provided, however, that if the Contractor has filed a complaint with the Director of the Division of Minority and Women’s Business Development pursuant to 5 NYCRR § 142.12, liquidated damages shall be payable only in the event of a determination adverse to the Contractor following the complaint process.

27.10 Any suspicion of fraud, waste, or abuse involving the contracting or certification of MWBEs shall be immediately reported to ESD’s Division of Minority and Women’s Business Development at (855) 373-4692.

**DOCUMENT 007308**

**SUPPLEMENTARY CONDITIONS – BUY AMERICA PREFERENCE**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provisions of that part shall remain in effect.

**ARTICLE 25 – MISCELLANEOUS PROVISIONS**

25.4 Delete this Paragraph in its entirety and replace with the following:

25.4 BUY AMERICA PREFERENCE

Recipients of an award of Federal financial assistance from a program for infrastructure are hereby notified that none of the funds provided under this award may be used for an infrastructure project unless:

(1) All iron and steel used in the project are produced in the United States—this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;

(2) All manufactured products used in the project are produced in the United States— this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard that meets or exceeds this standard has been established under applicable law or regulation for determining the minimum amount of domestic content of the manufactured product; and

(3) All construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. The construction material standards are listed below.

*Incorporation into an infrastructure project*. The Buy America Preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America Preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project, but are not an integral part of the structure or permanently affixed to the infrastructure project.

*Categorization of articles, materials, and supplies*. An article, material, or supply should only be classified into one of the following categories: (i) Iron or steel products; (ii) Manufactured products; (iii) Construction materials; or (iv) Section 70917(c) materials. An article, material, or supply should not be considered to fall into multiple categories. In some cases, an article, material, or supply may not fall under any of the categories listed in this paragraph. The classification of an article, material, or supply as falling into one of the categories listed in this paragraph must be made based on its status at the time it is brought to the work site for incorporation into an infrastructure project. In general, the work site is the location of the infrastructure project at which the iron, steel, manufactured products, and construction materials will be incorporated.

*Application of the Buy America Preference by category*. An article, material, or supply incorporated into an infrastructure project must meet the Buy America Preference for only the single category in which it is classified.

*Determining the cost of components for manufactured products*. In determining whether the cost of components for manufactured products is greater than 55 percent of the total cost of all components, use the following instructions:

(a) For components purchased by the manufacturer, the acquisition cost, including transportation costs to the place of incorporation into the manufactured product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(b) For components manufactured by the manufacturer, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (a), plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the manufactured product.

*Construction material standards*. The Buy America Preference applies to the following construction materials incorporated into infrastructure projects. Each construction material is followed by a standard for the material to be considered "produced in the United States." Except as specifically provided, only a single standard should be applied to a single construction material.

(1) Non-ferrous metals. All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.

(2) Plastic and polymer-based products. All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.

(3) Glass. All manufacturing processes, from initial batching and

melting of raw materials through annealing, cooling, and cutting, occurred in the United States.

(4) Fiber optic cable (including drop cable). All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.

(5) Optical fiber. All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.

(6) Lumber. All manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.

(7) Drywall. All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.

(8) Engineered wood. All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

*Waivers*

At any time after award of a construction contract, if a vendor identifies that a material or component cannot be obtained in accordance with Buy America, a waiver request may be submitted to the Director's Representative. Waivers may be requested if:

1. The types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or

2. The inclusion of iron, steel, manufactured products or construction materials produced in the United States will increase the cost of the overall project by more than 25%

Waiver requests must be submitted to the Director's Representative in writing prior to purchase of the non-compliant component or material from a manufacturer or distributor. Waivers must be approved by the Made in America Office and are subject to a public comment period of not less than 15 days.

*Definitions*

**"Buy America Preference"** means the "domestic content procurement preference" set forth in section 70914 of the Build America, Buy America Act, which requires the

head of each Federal agency to ensure that none of the funds made available for a Federal award for an infrastructure project may be obligated unless all of the iron, steel, manufactured products, and construction materials incorporated into the project are produced in the United States.

**"Construction materials"** means articles, materials, or supplies that consist of only one of the items listed in paragraph (1) of this definition, except as provided in paragraph (2) of this definition. To the extent one of the items listed in paragraph (1) contains as inputs other items listed in paragraph (1), it is nonetheless a construction material.

(1) The listed items are:

(i) Non-ferrous metals;
(ii) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
(iii) Glass (including optic glass);
(iv) Fiber optic cable (including drop cable);
(v) Optical fiber;
(vi) Lumber;
(vii) Engineered wood; and
(viii) Drywall.

(2) Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.

**"Infrastructure"** means public infrastructure projects in the United States, which includes, at a minimum, the structures, facilities, and equipment for roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property; and structures, facilities, and equipment that generate, transport, and distribute energy including electric vehicle (EV) charging.

**"Infrastructure project"** means any activity related to the construction, alteration, maintenance, or repair of infrastructure in the United States regardless of whether infrastructure is the primary purpose of the project. See also paragraphs (c) and (d) of 2 CFR 184.4.

**"Iron or steel products"** means articles, materials, or supplies that consist wholly or predominantly of iron or steel or a combination of both.

**“Manufactured products”** means:

(1) Articles, materials, or supplies that have been:

(i) Processed into a specific form and shape; or
(ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.

(2) If an item is classified as an iron or steel product, a construction material, or a Section 70917(c) material under 2 CFR 184.4(e) and the definitions set forth in 2 CFR 184.3, then it is not a manufactured product. However, an article, material, or supply classified as a manufactured product under 2 CFR 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or Section 70917(c) materials.

**“Predominantly of iron or steel or a combination of both”** means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

**“Section 70917(c) materials”** means cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. See Section 70917(c) of the Build America, Buy America Act.

**END OF DOCUMENT**

**DOCUMENT 007310**

**SUPPLEMENTARY CONDITIONS - CONTRACTOR'S SUPERVISION**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provisions of that part shall remain in effect.

## ARTICLE 6 - CONTRACTOR'S SUPERVISION

ARTICLE 6 Delete this Article in its entirety and replace with the following:

6.1 The Contractor shall designate in writing, competent supervision and/or management representatives as required below to represent the Contractor at all times with authority to act for the Contractor. All direction given to the Contractor's representatives shall be as binding as if given to the Contractor. A superintendent or project manager shall be classified as management representatives included in the Contractor's overhead and shall perform management, supervisory and/or administrative tasks (non labor) only. Individuals listed under this Article shall have the ability to effectively communicate (verbal and written) with all parties associated with the administration/supervision of this contract.

6.1.1 For contracts awarded up to $1,000,000 the Contractor shall provide a supervisor, for the Contractor's staff, who shall be in attendance at the Site throughout the active performance of the Work, including active performance of the Work by subcontractors.

6.1.2 For contracts awarded from $1,000,001 to $5,000,000, the Contractor shall provide a superintendent, for the Contractor's staff, who shall be in attendance at the Site throughout the active performance of the Work until Substantial Completion. Upon Substantial Completion the Contractor shall provide a supervisor who shall be in attendance at the Site throughout the active performance of the Work until Physical Completion. The superintendent's responsibilities include, but are not limited to, directing and scheduling the Work, attending all Project meetings, coordinating and controlling the Work of subcontractors, and ensuring full compliance with the Contract documents. The Contractor shall also provide a project manager for the Contractor's staff from award through Substantial Completion. The Project Manager's responsibilities shall include, but are not limited to, developing and maintaining the submittal system and project schedules, attending Project meetings, making purchasing and cost decisions on behalf of the Contractor, Orders on Contract responses and negotiations, and closeout and warranty documentation. The Contractor shall provide required information to the Director's Representative for the Project schedule.

6.1.3 For contracts awarded from $5,000,001 to $10,000,000, in addition to the requirements of Article 6.1.2, the contractor shall provide a Project Manager for the Contractor's staff that shall be in attendance at the site throughout the active performance of the Work until Substantial Completion.

6.1.4 For contracts awarded for more than $10,000,000, in addition to the requirements set forth in Article 6.1.3, if at any time the Contractor has more than five subcontractors performing Work on the Site simultaneously, the Contractor shall provide an additional Superintendent to coordinate the Work of the subcontractors.

6.2 Should the Director deem any employees of the Contractor not satisfactory or unfit for their duty, the Contractor shall dismiss them and they shall not again be employed on the Work.

6.2.1 Infractions that are dismissible for project managers, superintendents, or supervisors include, but are not limited to, the failure to develop and maintain Project schedules, failure to comply and enforce safety regulations, failure to schedule inspections or provide adequate notice as required by Contract Documents, failure to attend and adequately prepare for meetings as required by Contract Documents, and failure to follow directions regarding the Work provided by the Director's Representative.

6.3 The experience levels noted below in this Article will be used in evaluating the qualifications and experience of the supervisors, superintendents, and Project Managers, as applicable.

6.3.1 Supervisors, required by paragraph 6.1.1, shall have a minimum of five years of experience in the role of supervisor with a minimum of three projects of similar size and scope, and shall be subject to review and written approval by the Director's Representative before commencing the Work, and subsequently during the course of the Project if the supervisor is replaced after Work has commenced. The Contractor will provide references to validate qualifications of the proposed supervisor upon request.

6.3.2 Superintendents, required for any contracts awarded above $1,000,000 as set forth in Article 6.1.2, shall have a minimum of five years of experience in the role of Superintendent with a minimum of three projects of similar size and scope, and shall be subject to review and written approval by the Director's Representative before commencing the Work, and subsequently during the course of the Project if the Superintendent is replaced after Work has commenced. The Contractor will provide references to validate qualifications of the proposed Superintendent upon request.

6.3.3 The Project Manager, required for any contracts awarded above $1,000,000 as set forth in Article 6.1.2, shall have a minimum of five years of experience in the role of Project Manager with a minimum of three projects of similar size and scope, and shall be subject to review and written approval by the Director's Representative before commencing the Work, and subsequently during the course of the Project if the Project Manager is replaced after Work has commenced. The Contractor will provide references to validate qualifications of the proposed Project Manager upon request.

6.4 No subcontractor shall be allowed at the Work Site before approval by the Director and the Contracting Officer. Before any part of the Contract shall be sublet or material purchased, the Contractor shall submit to the Director in writing the name of each proposed subcontractor and supplier and obtain the Director's written consent to such subcontractor and supplier. The names shall be submitted in ample time to permit acceptance or rejection of each proposed subcontractor and supplier by the Director or Contracting Officer without causing delay in the Work of the Project. The Contractor shall promptly furnish such information as the Director or Contracting Officer may require concerning the proposed subcontractor's and supplier's ability and qualifications, and certification status as a Minority- and Women-Owned Business Enterprises and/or Service-Disabled Veteran-Owned Business. For each proposed subcontractor, the Contractor shall also provide the New York State Department of Labor registration number in accordance with NYS Labor Law Section 220-i. Each request for approval of a subcontractor whose subcontract will be valued at $10,000 or more shall also be accompanied by a NYS Vendor Responsibility Questionnaire - For-Profit Construction properly completed and executed by the proposed subcontractor.

6.5 The Contractor's use of subcontractors shall not diminish the Contractor's obligations to complete the Work in accordance with the Contract. The Contractor shall control and coordinate the Work of its subcontractors.

6.6 The Contractor shall be responsible for informing its subcontractors and suppliers of all the terms, conditions and requirements of the Contract Documents including, but not limited to, the General Conditions, Supplementary Conditions, the Drawings and Specifications, Appendix A, and changes made by Addenda and Orders on Contract.

**END OF DOCUMENT**

**DOCUMENT 007311**

**SUPPLEMENTARY CONDITIONS – PAYMENT**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provisions of that part shall remain in effect.

## ARTICLE 21 - PAYMENT

Add the following sub-paragraph:

21.2.1 The Director or the Contracting Officer may withhold payment requisitions or refuse to approve a portion of a payment requisition if the Contractor fails to provide an agreed to Baseline Project Work Plan, Project Schedule Updates, Recovery Project Schedule, or other scheduling requirements in accordance with Division 01 - General Requirements.

**END OF DOCUMENT**

**DOCUMENT 007322**

**SUPPLEMENTARY CONDITIONS - WORKERS' COMPENSATION**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provision of that part shall remain in effect.

**ARTICLE 19 - INSURANCE - BUILDER'S RISK, LIABILITY AND WORKERS' COMPENSATION**

Add the following paragraphs to 19.2.1:

> The contractor agrees that pursuant to WCL Section 141-b, this contract may be terminated if it is determined that at the time of either the bid submission or contract award, the contractor was, in fact, debarred by WCL Section 141-b, or was a substantially owned affiliate of a debarred contractor.
>
> Additionally, the contractor agrees that it must replace, at no additional charge to the State, any subcontractor who the State or the contractor learns was debarred by WCL Section 141-b prior to or during the contract.

**END OF DOCUMENT**

**DOCUMENT 007323**

**SUPPLEMENTARY CONDITIONS – VENDOR RESPONSIBILITY**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provision of that part shall remain in effect.

**ARTICLE 25 - MISCELLANEOUS PROVISIONS**

Add the following paragraphs:

25.10 VENDOR RESPONSIBILITY: Contractor shall at all times during the Contract term remain responsible. Contractor agrees, if requested by the Commissioner of OGS or his or her designee, to present evidence of its continuing legal authority to do business in New York State, integrity, experience, ability, prior performance, and organizational and financial capacity.

The Commissioner of OGS or his or her designee, in his or her sole discretion, reserves the right to suspend any or all activities under this Contract, at any time, when he or she discovers any information that calls into question the responsibility of Contractor. In the event of such suspension, Contractor will be given written notice outlining the particulars of such suspension. Upon issuance of such notice, Contractor must comply with the terms of the suspension order. Contract activity may resume at such time as the Commissioner of OGS or his or her designee issues a written notice authorizing a resumption of performance under the contract.

Upon written notice to Contractor, and a reasonable opportunity to be heard with appropriate OGS officials or staff, the Contract may be terminated by the Commissioner of OGS or his or her designee at Contractor's expense where Contractor is determined by the Commissioner of OGS or his or her designee to be non-responsible. In such event, the Commissioner of OGS or his or her designee may complete the contractual requirements in any way he or she may seem advisable and pursue available legal or equitable remedies for breach.

In no case shall termination of the contract by the state be deemed a breach thereof, nor shall the state be liable for any damages or lost profits or otherwise, which may be sustained by Contractor as a result of such termination.

**END OF DOCUMENT**

**DOCUMENT 007324**

**SUPPLEMENTARY CONDITIONS - ENCOURAGING USE OF NEW YORK STATE BUSINESSES IN CONTRACT PERFORMANCE**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provisions of that part shall remain in effect.

**ARTICLE 25 – MISCELLANEOUS PROVISIONS**

Add the following paragraphs:

25.11 Encouraging New York State Businesses

New York State businesses have a substantial presence in State contracts and strongly contribute to the economies of the state and the nation. In recognition of their economic activity and leadership in doing business in New York State, bidders/proposers for this contract are strongly encouraged and expected to consider New York State businesses in the fulfillment of the requirements of the contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles.

Bidders need to be aware that all government entities benefiting from this contract will be strongly encouraged, to the maximum extent practical and consistent with legal requirements, to use responsible and responsive New York State businesses in purchasing commodities that are of equal quality and functionality and in utilizing services and technology. Furthermore, bidders are reminded that they must continue to utilize small, minority and women-owned businesses, consistent with current State law.

Utilizing New York State businesses in State contracts will help create more private sector jobs, rebuild New York's infrastructure, and maximize economic activity to the mutual benefit of the contractor and its New York State business partners. New York State businesses will promote the contractor's optimal performance under the contract, thereby fully benefiting the public sector programs that are supported by associated procurements.

Public procurements can drive and improve the State's economic engine through promotion of the use of New York businesses by its contractors. The State therefore expects bidders to provide maximum assistance to New York businesses in their use of the contract. The potential participation by all kinds of New York businesses will deliver great value to the State and its taxpayers.

Bidders can demonstrate their commitment to the use of New York State businesses by responding to the question shown below ***on the Bid Form for this project***:

Will New York State Businesses be used in the performance of this contract? _____ Yes _____ No

The successful bidder who answers "Yes" to this question on the bid form will be required to list the New York State business(es) that will be used on the **Contractor's List of Subcontractors/Suppliers** (Form BDC 329), which must be submitted within ***fifteen (15) days after award*** of the contract.

**END OF DOCUMENT**

# DOCUMENT 007326

## SUPPLEMENTARY CONDITIONS - ORDERS ON CONTRACT (CHANGE ORDERS)

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provision of that part shall remain in effect.

### ARTICLE 10 - ORDERS ON CONTRACT (CHANGE ORDERS)

Replace paragraph 10.1 with the following:

10.1 The State may make changes by altering, adding to or deleting from the Work, and adjusting the Contract sum accordingly. All changed Work shall be executed in conformity with the terms and conditions of the Contract Documents unless otherwise provided in the order on contract. Any change in the Contract sum or time for completion of the described work of the order on contract shall be contained in the order on contract. The Contractor shall complete a time impact analysis (TIA) pursuant to specification section 013113 concurrently with the pricing of the order on contract. Potential time adjustments shall be determined based on the TIA with presented costs. If the Work of the order on contract impacts the substantial completion date, the Contractor must notify the Director's Representative prior to the negotiation of the order on contract and a time adjustment may be issued. If the Contractor does not develop a time impact analysis during the negotiation of an order on contract, the Contractor shall forfeit their right to a time adjustment.

Replace paragraph 10.5.1 with the following:

10.5.1 The contractor shall submit a responsive cost proposal to the Director's Representative in proper form subject to the provisions of this Article. The contractor shall respond no later than 15 calendar days from the date of a "request for proposal" from the Director's Representative with their cost proposal and time impact analysis (TIA). If the contractor believes additional time is required to prepare and submit a responsive proposal, a justification and proposed response duration must be submitted to the Director's Representative or his/her designated representative within 10 days from the date of a "request for proposal". If approved, the 10-day requirement will be extended as the State may deem appropriate. Should the contractor fail to respond or fail to submit the required cost proposal within the 15-day requirement, the State shall determine a fair market value for the work proposed and will issue an order on contract or field order to the contract. The Contractor, by failing to respond to a request for proposal or provide an acceptable and responsive cost proposal; waives any claim or rights to any extra and or additional costs and/or time as may be determined by the Contracting Officer, and the overrides resulting from this action will be limited to the values as set forth in section 012200.

**END OF DOCUMENT**

**DOCUMENT 007327**

# SUPPLEMENTARY CONDITIONS – SDVOB

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provisions of that part shall remain in effect.

Add the following article:

## ARTICLE 28 – PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED SERVICE-DISABLED VETERAN-OWNED BUSINESSES

Article 3 of the Veterans' Services Law provides for more meaningful participation in public procurement by certified Service-Disabled Veteran-Owned Businesses ("SDVOB"), thereby further integrating such businesses into New York State's economy. OGS recognizes the need to promote the employment of service-disabled veterans and to ensure that certified service-disabled veteran-owned businesses have opportunities for maximum feasible participation in the performance of OGS contracts.

In recognition of the service and sacrifices made by service-disabled veterans and in recognition of their economic activity in doing business in New York State, Bidders are expected to consider SDVOBs in the fulfillment of the requirements of the Contract. Such participation may be as subcontractors or suppliers, as protégés, or in other partnering or supporting roles.

### 28.1 Contract Goals

28.1.1 OGS hereby establishes overall goals under this contract of 6% for SDVOB participation for the C trade contractor, 3% for SDVOB participation for the E trade contractor, 3% for SDVOB participation for the H trade contractor, and 3% for SDVOB participation for the P trade contractor, based on the current availability of qualified SDVOBs. Trades with 0% goals are encouraged to make "good faith efforts" to promote and assist in the participation of SDVOBs on the Contract for the provision of services and materials. For purposes of providing meaningful participation by SDVOBs, the Bidder/Contractor should refer to the **List of Certified NYS Service-Disabled Veteran-Owned Businesses**, which can be accessed from the OGS website page at the following link:

https://online.ogs.ny.gov/SDVOB/search .

Questions regarding compliance with SDVOB participation goals should be directed to the Designated Contacts specified in Document 002113 Instructions to Bidders. Additionally, following Contract execution, Contractor is encouraged to contact DCSDVOB@ogs.ny.gov to discuss additional methods of maximizing participation by SDVOBs on the Contract.

28.1.2 Contractor must document "good faith efforts" to provide meaningful participation by SDVOBs as subcontractors or suppliers in the performance of the Contract (see clause 28.4 below).

### 28.2. SDVOB Utilization Plan

28.2.1 The Contractor's SDVOB Utilization Plan, using the form BDC 328S, available for download at https://ogs.ny.gov/veterans/forms, shall list the SDVOBs that the Bidder intends to use to perform the Contract, a description of the work that the Bidder intends the SDVOB to perform to meet the goals on the Contract, and the estimated dollar amounts to be paid to an SDVOB, or, if not known, an estimate of the percentage of Contract work the SDVOB will perform. By signing the Utilization Plan, the Bidder acknowledges that making false representations or providing information that shows a lack of good faith as part of, or in conjunction with, the submission of a Utilization Plan is prohibited by law and may result in

penalties including, but not limited to, termination of a contract for cause, loss of eligibility to submit future bids, and/or withholding of payments. Any modifications or changes to the agreed participation by SDVOBs after the Contract award and during the term of the Contract must be reported on a revised SDVOB Utilization Plan and submitted to OGS.

28.2.2 The apparent low bidder must submit the completed SDVOB Utilization Plan within seven (7) calendar days after the bids are opened. OGS will review the submitted SDVOB Utilization Plan and advise the bidder of OGS acceptance or issue a notice of deficiency within twenty (20) calendar days of receipt.

28.2.3 If a notice of deficiency is issued, Bidder/Contractor agrees that it shall respond to the notice of deficiency, within nine (9) calendar days of receipt, by submitting to OGS a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by OGS to be inadequate, OGS shall notify the Bidder/Contractor and direct the Bidder/Contractor to submit, within seven (7) calendar days of notification by OGS, a request for a partial or total waiver of SDVOB participation goals on form BDC 333S. Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or proposal.

28.2.4 OGS may disqualify a Bidder's bid or proposal as being non-responsive under the following circumstances:

a. If a Bidder fails to submit an SDVOB Utilization Plan;

b. If a Bidder fails to submit a written remedy to a notice of deficiency;

c. If a Bidder fails to submit a request for waiver; or

d. If OGS determines that the Bidder has failed to document good faith efforts.

28.2.5 If awarded a Contract, Contractor certifies that it will follow the submitted SDVOB Utilization Plan for the performance of SDVOBs on the Contract pursuant to the prescribed SDVOB contract goals set forth in this section.

28.2.6 Contractor further agrees that a failure to use SDVOBs as agreed in the Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, OGS shall be entitled to any remedy provided herein, including but not limited to, a finding of Contractor non-responsibility.

**28.3 Request for Waiver**

28.3.1 In accordance with 9 NYCRR § 252.2(m), a Bidder/Contractor that is able to document good faith efforts to meet the goal requirements, as set forth in 28.4 below, may submit a request for a partial or total waiver on form BDC 333S (https://ogs.ny.gov/veterans/forms), accompanied by supporting documentation. A Bidder may submit the request for waiver at the same time it submits its SDVOB Utilization Plan. If a request for waiver is submitted with the SDVOB Utilization Plan and is not accepted by OGS at that time, the provisions of clauses 28.2.2, 28.2.3 and 28.2.4 will apply. If the documentation included with the waiver request is complete, OGS shall evaluate the request and issue a written notice of acceptance or denial within 20 days of receipt.

28.3.2 Contractor shall attempt to utilize, in good faith, the SDVOBs identified within its SDVOB Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract award may be made at any time during the term of the Contract to OGS, but must be made prior to the submission of a request for final payment on the Contract. Such waiver requests shall be made on form BDC 333S, accompanied by supporting documentation, and emailed to ogs.sm.sdvobcomp@ogs.ny.gov.

28.3.3 If OGS, upon review of the SDVOB Utilization Plan (BDC 328S) and Contractor's Monthly SDVOB Payment Report (BDC 58S), determines that Contractor is failing or refusing to comply with the contract goals and no waiver has been issued in regards to such non-compliance, OGS may issue a notice of deficiency to the Contractor. The Contractor must respond to the notice of deficiency within nine (9) calendar days of receipt. Such response may include a request for partial or total waiver of SDVOB contract goals.

### 28.4 Required Good Faith Efforts

In accordance with 9 NYCRR § 252.2(n), Contractors must document their good faith efforts toward utilizing SDVOBs on the Contract. Evidence of required good faith efforts shall include, but not be limited to, the following:

a. A list of the general circulation, trade, and other publications and dates of publications in which the Contractor solicited the participation of certified SDVOBs as subcontractors/suppliers, copies of such solicitations, and any responses thereto.

b. A list of certified SDVOBs that were solicited for this Contract. Provide proof of dates or copies of the solicitations and copies of the responses made by the certified SDVOBs. Describe specific reasons that responding certified SDVOBs were not selected.

c. Descriptions of the Contract documents, plans and specifications made available to certified SDVOBs by the Contractor when soliciting their participation and steps taken to structure the scope of work for the purpose of subcontracting with, or obtaining supplies from, certified SDVOBs.

d. A description of the negotiations between the Contractor and certified SDVOBs for the purposes of complying with the SDVOB goals of this Contract.

e. Dates of any pre-bid, pre-award, or other meetings attended by Contractor, if any, scheduled by OGS with certified SDVOBs whom OGS determined were capable of fulfilling the SDVOB goals set in the Contract.

f. Other information deemed relevant to the request.

### 28.5 Monthly SDVOB Contractor Compliance Report

In accordance with 9 NYCRR § 252.2(q), Contractor is required to report Monthly SDVOB Contractor Compliance each month to OGS during the term of the Contract for the preceding month's activity, documenting progress made towards achieving the Contract SDVOB goals. This information must be reported by the Contractor using form BDC 58S (form and instructions located at https://ogs.ny.gov/veterans/forms) and emailed by the 10th day of each month for the preceding month's activity to ogs.sm.sdvobcomp@ogs.ny.gov.

### 28.6 Breach of Contract and Damages

In accordance with 9 NYCRR § 252.2(s), any Contractor found to have willfully and intentionally failed to comply with the SDVOB participation goals set forth in the Contract shall be found to have breached the contract and Contractor shall pay damages as set forth therein.

**END OF DOCUMENT**

**DOCUMENT 007331**

**SUPPLEMENTARY CONDITIONS – LABOR LAW PROVISIONS**

This supplement modifies the General Conditions. Where any part of the General Conditions is modified by this supplement, the unaltered provisions of that part shall remain in effect.

## ARTICLE 23 – LABOR LAW PROVISIONS

Add the following paragraph:

23.7 In accordance with New York Labor Law §220-i, the Contractor and all subcontractors shall be registered with the New York State Department of Labor prior to commencing any Work. The Contractor is responsible for ensuring and verifying that all subcontractors are registered before they commence work on the project. Any delays or costs incurred due to a Contractor's or subcontractor's failure to be registered, or the Contractor's failure to verify such registration, shall be borne solely by the Contractor and shall not be grounds for an extension of time or additional compensation.

**END OF DOCUMENT**

SECTION 011000.01 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

A. The title and location of the Work is printed on the cover of this Project Manual.

B. Type of Contract: Fixed price.

1.2 RELATED CONTRACTS

A. The Project consists of the following separate contracts:

1. Construction Work Project No. 47477- C
2. HVAC Work Project No. 47477- H
3. Plumbing Work Project No. 47477- P
4. Electrical Work Project No. 47477- E

B. The suffix letter at the end of the project number distinguishes the separate Contracts. The Sections in Division 01 of the Specifications which have more than one suffix letter (such as this Section) are common to each related Contract.

1.3 SUBSTANTIAL AND PHYSICAL COMPLETION DATES

A. Substantially complete the Work within 631 days after the Agreement is approved by the Comptroller.

1. The time allocated for the performance of work under this contract includes 10 days for notification of the Contractor of the Comptroller's approval of the Agreement.
2. The approval of the Agreement by the Comptroller constitutes the filing of the Contract Documents as a public record and notice to the Contractor that a fully executed contract exists between the Contractor and the State.

B. Physically complete the Work within 90 days after the established Substantial Completion date.

1.4 CONTRACT AWARD SUBMITTALS

A. Submittal No. 1: Submit the CONTRACTOR'S LIST OF SUBCONTRACTORS-SUPPLIERS information required in SCHEDULES AND RECORDS Article in Specification Section 013000 not later than 15 days after approval of the Contract by the Comptroller.

B. Submittal No. 2: Submit Preliminary Project Schedule related information noted in 013113 Project Planning and Scheduling or 013200 Construction Progress Documentation, whichever

section is applicable, within 15 days after approval of the Contract by the Comptroller for review by the Director's Representative and OGS Scheduling.

C. Submittal No. 3: Submit the Submittal Coordinator Qualifications not later than 10 days after award. Include resume and references, and other certification, licenses, or other requested information.

## 1.5 RESTRICTED WORK PERIOD

A. Construction Work Contract: Do not perform the roofing and related Work on or after December 1st and up to, but not including April 1st unless approved otherwise, in writing, by the Director. During this period, clear the roof of materials, equipment, and debris. Maintain the roof in a watertight condition.

B. Construction Work Contract: Do not perform the waterproofing and related Work on or after December 1st and up to, but not including April 1st unless approved otherwise, in writing, by the Director. During this period, clear the work area of materials, equipment, and debris.

C. Construction Work Contract: Do not perform the asphalt paving Work on or after November 15th and up to, but not including April 15th, unless approved otherwise, in writing, by the Director. During this period, leave the disturbed earthwork areas stabilized for winter shutdown and clear the Work area of materials, equipment, and debris.

D. HVAC Work Contract: Do not perform Work requiring shut off of active heating piping and equipment on or after October 15th and up to, but not including May 1st unless approved otherwise, in writing, by the Director.

E. Asbestos-containing materials will be abated by the Construction Work Contractor. Do not perform other Work in the area of such activity during the abatement of asbestos-containing materials.

## 1.6 ITEMS NOT INCLUDED

A. The following items shown on the Drawings are not included in the Contract:

1. Items indicated "NIC" (Not in Contract).
2. Existing construction, except where such construction is to be removed, replaced, or altered.

## 1.7 CONFINED SPACE

A. Comply with confined space and permit-required confined space as defined in Title 29, Part 1910, Section 146 of the Code of Federal Regulations (29CFR 1910.146).

B. Comply with Safety Requirements for Confined Spaces (ANSI/ASSE Z117.1-2009).

C. All spaces shall be treated as permit-required confined spaces until the Contractor and/or subcontractors are able to re-classify the space to a non-permit confined space as per 29CFR 1910.146 and ANSI/ASSE Z117.1-2009.

D. Confined spaces are not intended to limit or define Contractor's or subcontractors' regulatory compliance requirements. In addition to confined spaces indicated on the drawings, other confined spaces may be present or created by the work of this contract. Notify the Director's Representative, in writing, of confined spaces created or eliminated during execution of the Work.

E. For the purpose of inspecting ongoing work, furnish at no additional cost to the State, personnel, as directed, to allow the Director's Representative to enter confined space and permit-required confined space in compliance with Title 29, Part 1910, Section 146 of the Code of Federal Regulations (29CFR 1910.146).

1.8 OCCUPANCY

A. This is an occupied Facility, however the building will be vacated during execution of the Work.

1.9 CONTRACTOR USE OF PREMISES

A. Work hours shall be as established by the Facility authorities thru the Director's Representative.

B. Inform the Director's Representative of work area access requirements. The Director's Representative will coordinate and schedule the requirements with Facility staff to obtain and ensure timely availability of work areas.

C. Check in with the Facility Representative, as directed, at the beginning of each workday. Furnish information regarding where employees will be working during the day.

D. Comply with the Facility's Visitor Identification Policy. A copy of the current policy will be distributed at the initial job meeting.

E. The following items are not allowed on the Site or on Facility premises.

1. Firearms, ammunition, weapons, and dangerous instruments (other than tools required for the Work).
2. Alcoholic beverages and persons under the influence of same.
3. Cannabis and persons under the influence of same. Cannabis, as used herein shall refer to any form of cannabis that has psychoactive properties.
4. Illegal controlled substances and persons under the influence of same.
5. Cameras (except with written permission from the Director's Representative).

F. Comply with Facility policies relating to smoking at the Site.

G. Routes of ingress and egress within the building to the location of the Work shall be as directed by the Director's Representative.

H. Store materials and perform the Work so that pedestrian and vehicular traffic is not obstructed.

I. Do not diminish the level of life safety during performance of the Work.

J. Remove furniture and portable equipment which interferes with execution of the Work and store where directed. Reset such items when directed.

K. Utility Outages and Shutdowns: Do not interrupt utility services or branch services within the building except for the time required to make new connections. Arrange with the Director's Representative for the time and duration of interruptions of services. Provide temporary services required to maintain building services at all times other than during scheduled interruptions.

1. Construction Work Contract: During the asbestos abatement portion of the Project, comply with the requirements specified in Section 028213.

L. Be responsible and accountable for employees, suppliers, subcontractors and their employees, with regard to their use of the premises. Direct them to comply with the Facility Regulations and with the security and traffic regulations.

M. Furnish Facility authorities with a telephone number or method to contact the supervisor for the Work in case of an emergency after work hours, including weekends and holidays.

N. Comply with applicable federal and State of New York Right-to-Know Law provisions. Provide Safety Data Sheets (SDS) documents for products that have SDS data prior to use on the project site.

1. Upload and maintain electronic SDS documents on the Submittals Website (SDS tab).
2. SDS tab is organized by prime contracts. To be readily identified, name products with SDS by specification section number and product name.
3. Supply and maintain one hard copy of the appropriate SDS on the project site and one hard copy with the Facility's Right-to-Know Information Officer.

O. Direct employees to be watchful for people in or near the work area where safety hazards may be present. Notify the Facility Safety/Security Department, if necessary, to remove them from the work area or Site.

P. Report fire and other emergency situations to the Facility Safety/Security Department immediately.

## 1.10 OPENINGS AND CHASES IN NEW CONSTRUCTION

A. Construction Work Contract:

1. Unless specifically indicated otherwise, provide openings, chases, and similar items in new construction provided under this Contract, as required for items to be provided under related contracts.
2. After the installation and completion of the items for which openings and chases have been provided, build in, over, around and finish the openings and chases to complete the Work.
3. Provide all cutting, patching, and refinishing resulting from failure to provide the required openings and chases, if the necessary information was furnished by the related contractor before 24 hours of start of the applicable part of the Work.

4. If related contractors fail to furnish drawings or written information covering the openings and chases they require in new construction at least 24 hours before installation of the Work affected by those items, the related contractors will be required to do all cutting, patching, and refinishing of the construction so affected, at their own expense.

B. HVAC Work, Plumbing Work, and Electrical Work Contracts:

1. Unless specifically indicated otherwise, furnish drawings or written information to the Construction Work Contractor covering the openings and chases required in new construction for the Work. If such information is not furnished at least 24 hours before start of the applicable part of the Construction Work Contractor's work, all necessary cutting, patching, and refinishing will be included in the Contract at no additional cost to the State.

## 1.11 REFERENCE SPECIFICATIONS AND STANDARDS

A. Comply with the requirements of the various specifications and standards referred to in these Specifications, except where they conflict with the requirements of these Specifications. Such reference specifications and standards shall be the date of latest revision in effect at the time of receiving bids unless the date is given.

B. DOT Specifications: If the abbreviation DOT appears in these Specifications, it shall mean the most current edition of the New York State Department of Transportation, Office of Engineering specifications entitled "STANDARD SPECIFICATIONS - CONSTRUCTION AND MATERIALS", including all applicable Addenda in effect at the time of receipt of bids. The DOT specifications may be purchased from the Department of Transportation, Plan and Publication Sales, 50 Wolf Road, Albany, NY 12232, (518) 457-2124.

## 1.12 LAYING OUT

A. Examine the Contract Documents thoroughly and promptly report any errors or discrepancies to the Director's Representative before commencing the Work.

B. Lay out the Work in accordance with the Contract Documents.

C. Construction Work Contract:

1. Location of the building on the Site shall be performed by a licensed Land Surveyor or Professional Engineer.
2. Provide and maintain axis lines on each floor.
3. Provide and maintain marks 4 feet above finish floor on each column at each floor.
4. Take elevations and locations from control points located by the Director's Representative.

## 1.13 SPECIAL INSPECTIONS

A. Special Inspections and tests are required by Chapter 17 of the Building Code of New York State (BCNYS). Inspections & Testing Services will be provided by the state unless otherwise noted.

B. Contractors are responsible for notifying the Directors Representative regarding individual inspections listed in the **STATEMENT OF SPECIAL INSPECTIONS**. Contractors shall cooperate with the inspectors and testing agencies and sufficient notice and lead time (minimum 48 hours) must be allowed for inspection and testing to be performed.

C. Where deficiencies are identified, the contractor must take corrective actions to comply with the contract documents or remedy the deficiencies in accordance with Article 9 of the General Conditions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 011100 - SAFETY

PART 1 - GENERAL

1.1 SUMMARY

A. This section requires compliance with applicable Safety codes, standards, and regulations, including but not limited to OSHA, Building Code of New York State, Fire Code of New York State, and Facility Regulations.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Summary of the Work: Section 011000.

B. Regulatory Requirements: Section 014100.

1.3 DEFINITIONS, ABBREVIATIONS

A. OSHA: Occupational Safety and Health Administration.

B. BCNYS: Building Code of New York State.

C. EBCNYS: Existing Building Code of New York State.

D. FCNYS: Fire Code of New York State.

E. NFPA: National Fire Protection Association.

F. NEC: NFPA 70E.

1.4 SUBMITTALS

A. Provide a SITE SPECIFIC SAFETY PLAN no later than 15 days after approval of the Contract by the Comptroller. The plan must include at a minimum:

1. Cover page including Project Name/Location/Project Number/Contractor Name/Potential Start/Finish Dates.
2. Complete Scope of work.
3. Roles and Responsibilities page identifying Supervision, list of the names of all competent and/or qualified persons, including their qualifications, for each activity requiring a competent person i.e. excavations, scaffolding, rigging, fall protection, etc.
4. A program for implementing appropriate PPE as specified in the High 5. Hazard Assessment detailed in Subparagraph 1.04 A.11 below.
5. A program for assuring employees have proper work attire, i.e. substantial sole safety-toed footwear, long pants, shirts with minimum 4-inch sleeves, etc.

6. A 100% 6-foot conventional fall protection program which provides full body harnesses, lanyards (connectors), and anchorage points, or guardrails for all trades when working 6 feet above a lower level.

    a. Exception:

        1) When the employer can demonstrate that it is infeasible or creates a greater hazard to utilize these systems, the employer shall develop and implement a Fall Protection Plan, which meets the requirements of paragraph (k) 1926.502. This plan must be approved before implementation by the applicable OGS Regional Safety Manager.
        2) When working from portable ladders.

7. A program for raising employee awareness through the use of weekly Safety Talks (i.e. "Toolbox Talks" or "Tailgate Meetings") on topics related to upcoming/relevant work on the project. Contractor shall be required to verify that all employees on site participated in meeting, with documentation submitted to the Director's Representative.
8. Confined Space entry program and procedures for entry, when applicable.
9. A written Respirable Silica Protection Plan, including tasks for which employees could reasonably be expected to be exposed to harmful silica dust, and control methods that will be used to limit or eliminate exposure, as well as any PPE necessary to ensure protection.
10. Identify specific hazards related to this Project, and how employees will be protected from those hazards.
11. High Hazard Assessment's detailing procedures for all high hazard work activities including, but not limited to:

    a. All lifts involving cranes or material handling equipment.
    b. Scaffolding where scaffold working deck is expected to be 10' or higher from a lower level.
    c. Demolition.
    d. Excavations where anticipated depth is 5' or more.
    e. Hot work activities, which shall follow all applicable requirements stated in NFPA 51B.
    f. Steel erection with specific fall protection requirements detailed.
    g. Work at elevations, including roofing work.
    h. Electrical work involving Lock Out - Tag Out (LOTO) procedures.

        1) High Hazard Assessments shall include a step-by-step breakdown of a given task, the hazards associated with each step, the controls that will be utilized to eliminate or minimize the hazards, and the PPE that will be used to protect from remaining hazards.
        2) All required certifications shall be provided for all applicable types of work with required training/certifications (i.e., Powder Actuated Tools, Aerial Lifts, Forklifts, Crane Operators License, etc.).

12. A project safety inspection program, with a minimum of one documented safety inspection per week, during the course of construction. Submit copies of all resultant inspection reports to the Director's Representative on a weekly basis.

13. A program for providing proper care for injured employees, including the name of the employee with First Aid/CPR certification who will be on site at all times during the course of construction, to include local hospital/medical facility locations and contact information.
14. Provide an Emergency Action and Evacuation Plan, including Fire Protection and Emergency Response, when applicable.

    a. Plan to include:

        1) Procedures for reporting a fire or other emergency.
        2) Procedures for emergency evacuation, including type of evacuation and exit route assignments.
        3) Emergency Contact information.
        4) Procedures on how to alert workers of an emergency.
        5) Procedures to account for all employees after evacuation and muster/evacuation points.
        6) A list of all major fire hazards, to include type of fire protection equipment necessary to control hazard.

B. Provide safety orientation training for each employee prior to their starting work on site. This orientation shall include, but not be limited to: Fitness for Duty (drug, alcohol, and cannabis policies), training on general safety hazards, site-specific safety policies and procedures, personal protective equipment, injury reporting and protocols, emergency evacuation and preferred medical providers, and HAZCOM (GHS Harmonization). Provide documentation of all safety orientation training for each new employee on the site, including all subcontractors, to the Director's Representative.

C. Accident Reporting: The Director's Representative shall be immediately notified of any and all accidents. A copy of a written accident report shall be furnished to the Director's Representative within 24 hours of an incident.

    1. After any incident on site resulting in an employee being injured or damage to property, a Post- Accident Review Investigation shall be held as soon as possible after any incident. As a minimum, this investigation will involve the injured person, his/her supervisor, the responsible project superintendent and/ or supervisor and the onsite safety supervisor. The contractor shall be responsible to provide a written Post-Accident Corrective Action Plan, which will detail immediate steps taken to correct any unsafe condition that led to injury/property damage, long-term actions to prevent repeat incidents from happening on the site, and roles and responsibilities of individuals who will be implementing the corrective measures, which will be reviewed for effectiveness and continually monitored for implementation.

## 1.5 STOP WORK ACTIVITY AUTHORITY

A. All NYS OGS Representatives have the authority to stop a work activity that exposes any Contractor employees to potentially serious injury and/or illness. The responsible Contractor shall immediately cease work, perform an assessment of the activity that is exposing employees to any Immediately Dangerous to Life or Health (IDLH) conditions, and take action necessary to satisfactorily address the unsafe condition(s), at no cost to the State. The activity may only resume when a NYSOGS Representative and respective Contractor's Safety Representative verify

corrective measures have been satisfactorily completed. Any related impact to time of completion shall be considered within the Contractor's control.

B. No site work, other than mobilization, shall commence until the Site-Specific Safety Plan is approved.

1.6 ADDITIONAL SAFETY POLICIES THAT WILL BE ADHERED TO THROUGHOUT THE CONSTRUCTION PHASE

A. All contractors are required to utilize head (hardhat) and eye protection (safety glasses) at all times well within the project limits.

B. Any employee exposed to equipment/vehicles shall be required to utilize an ANSI Level 2 Safety Work Vest.

C. Contractors are strictly prohibited from utilizing any state-owned equipment or materials during construction.

D. All tools/equipment on multi-trade projects shall bear identifiable markings as to which contractor the tool/equipment belongs to. If any tool/equipment on the project does not have contractor's markings, the tool shall be immediately removed from the site until owner claims the tool/equipment.

E. Seatbelts shall be utilized when operating all heavy equipment designed to be operated in a seated position. When traveling in a vehicle, all employees shall be seated in a secured seat with a seatbelt in place.

F. Inspections of scaffolding prior to use, and excavations prior to entry shall be documented by an on-site competent person. Documented inspection will be available on-site for inspection by the Director's Representative.

G. All electrical cords/water hoses, if feasible, shall be run overhead to avoid additional slip/trip hazards. If not feasible due to physical restrictions, cords/hoses shall be placed to avoid all walkways and work areas.

H. All heavy equipment being utilized on site shall have a fire extinguisher of suitable size/rating within reach of operator.

I. Any fuel-powered equipment shall have a fire extinguisher of suitable size/rating no closer than 10 feet and no further than 25 feet from the equipment.

J. All electrical work shall be done when panels/lines/boxes have been de-energized and locked out, unless otherwise approved in writing by the Director's Representative.

K. An applicable sized Spill Kit shall be available on all jobsites where heavy equipment is being utilized.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011100

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Include in the contract sum the allowances stated in this Section.

B. Should the net cost be more than the specified amount of the allowance, the contract sum will be adjusted by Order on Contract in accordance with the General Conditions. No Work in excess of the allowance will be permitted except by Order on Contract. Should the net cost be less than the specified amount of the allowance, the balance will be deducted from the final payment.

1.2 TOTALS FOR ALLOWANCES

A. The sum of allowances required by the Construction Work Contract is $613,246.

B. The sum of allowances required by the HVAC Work Contract is $455,222.

C. The sum of allowances required by the Plumbing Work Contract is $112,919.

D. The sum of allowances required by the Electrical Work Contract is $154,005.

1.3 ALLOWANCES FOR CONTINGENCIES

A. Include in the contract sum the amount indicated below to cover the cost of additional labor and materials for contingent activities within the scope of the Contract as directed in writing by Field Order. The Field Order will include a description of the Work and a method for determining the cost of such Work.

1. Construction Work Contract: $613,246.
2. HVAC Work Contract: $133,818.
3. Plumbing Work Contract: $112,919.
4. Electrical Work Contract: $154,005.

B. The value of the directed Work under this allowance will be determined by one or more of the methods authorized in Section 012200 which will be specified in the Field Order.

1.4 ALLOWANCE FOR DIRECT DIGITAL BUILDING CONTROL SYSTEM

A. HVAC Work Contract: Include in the contract sum the amount of $321,404 to cover the cost of providing modifications TO THE EXISTING Direct Digital Building Control System as specified in Section 230924 and as shown on the H-Contract Drawings.

1. The cost of providing the Work of this allowance will be paid in the amount specified. It is a fixed price allowance. Progress payments will be determined, by the Director, by evaluating the work completed.
2. Include overhead and profit for administering this allowance separately in the contract sum, not in the allowance.
3. Cause the products covered by this allowance to be provided by such persons or firm and for such amount as designated.
4. The amount of the allowance includes furnishing the products in accordance with the requirements of referenced Specification Section. Labor for the installation of the products covered by the referenced Specification Section shall be included in the Contract sum (not in the Allowance).
5. The amount of the Allowance includes delivery to the site and applicable taxes.
6. Include unloading and on-site handling costs, storage, and protection costs, installation costs, and other expenses separately in the Contract sum, not in the Allowance.
7. Purchase and Delivery:

    a. Execute purchase agreement with designated supplier.
    b. Arrange for samples, shop drawings, and product data as required.
    c. Make arrangements for delivery.
    d. Upon delivery, promptly inspect products for damage or defects. Submit claims for transportation damage.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012100

SECTION 012200 - COST COMPUTATIONS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The Contracting Officer shall determine the value of any order on contract or field order by one or more of the following methods:

1. Agreed to Amount:

a. By estimating the fair and reasonable cost of:

1) Labor, including all wages, required wage supplements and insurance/taxes required by law (workers' compensation, social security, disability, unemployment, etc.) paid to or on behalf of working foremen, workers and other employees below the rank of the Contractor's designated representative directly employed at the Site of the Project, and, on contracts with an award price less than $500,000, the Contractor's designated representative, regardless of job title or work status.
2) Materials (to be installed or turned over to the State).
3) Consumables are items that are used during the progression of the extra work that do not become a permanent part of the Work and as such are considered overhead.
4) Equipment, excluding hand tools, which, in the judgment of the State, would have been or will be employed exclusively and directly on the omitted work or extra work.
5) Where the omitted or extra work is performed directly by the Contractor; by adding to the total of such estimated costs a sum equal to 15 percent thereof, but, where the omitted or extra work is performed by a subcontractor, by adding a sum equal to 15 percent of said costs for the benefit of such subcontractor, and by adding, for the benefit of the Contractor (no further allowance will be made where extra work is performed by any sub-subcontractor), an additional sum equal to:

a) 10 percent of the first $10,000 of the above-estimated costs, including the subcontractor's percentage override.
b) Plus 5 percent of the next $90,000 of the total of said items.
c) Plus 3 percent of any sum in excess of $100,000 of the total of said items.
d) For the purposes of the aforesaid percentage overrides, the words "extra work" shall be defined as a complete item of added, modified, or changed work as described in writing to the Contractor and the reductions enumerated shall be applied individually to each Order on contract issued on a Contract. Such "extra work" may include the work of one or more trades and/or subcontractors or sub-subcontractors and shall include all labor, material, plant, equipment, tools and all

incidentals directly and/or indirectly necessary, related, involved in or convenient to the successful completion of the extra work item.

6) By accepting an amount agreed upon by both parties, which amount is to be calculated in a manner similar to that provided in subparagraph 1.01 A. 1. a.

7) Should the Contractor fail to submit the required proposal as required by Article 10.5.1, the Contractor shall be compensated as follows:

a) The costs will be determined by the State as described in 1.01 A. 1. a. above, but the percentages for profit and overhead will be as follows:

(1) Where the omitted or extra work is performed directly by the Contractor; by adding to the total of such estimated costs a sum equal to 10 percent thereof, but, where the omitted or extra work is performed by a subcontractor, by adding a sum equal to 10 percent of said costs for the benefit of such subcontractor, and by adding, for the benefit of the Contractor (no further allowance will be made where extra work is performed by any sub-subcontractor), an additional sum equal to:

(a) 5 percent of the first $10,000 of the above-estimated costs, including the subcontractor's percentage override.
(b) Plus 3 percent of any sum in excess of $10,000 of the total of said items.

2. ACTUAL COSTS - By determining the actual cost of the extra work in the same manner as in the above Subparagraph 1.01 A. 1.a. except that actual costs of the Contractor be utilized in lieu of estimated costs. The State shall have the option to utilize this method provided it notifies the Contractor of its intent to do so prior to the time the Contractor is properly authorized to commence performance of such work.
3. By applying the applicable price or prices set forth in the Contract Documents or by applying a unit price agreed to by both parties.
4. All profit, overhead and expense of whatsoever kind and nature, other than those set forth above in Subparagraphs A.1.a. 1), 2) and 4), and below in Paragraph 1.01 F., of the Contractor, its subcontractors and sub-subcontractors, are covered by the aforesaid percentage overrides and no additional payment therefore will be made by the State.

B. Irrespective of the method used or to be used by the State in determining the value of extra or omitted work, the Contractor shall, after receipt of a request, shall within 15 days submit to the State a detailed breakdown of the Contractor's estimate of the value of the omitted or extra work. The Contractor shall submit evidence, satisfactory to the Contracting Officer, to substantiate each and every item that constitutes their proposal for the change. The State shall promptly respond to such submission.

C. Whenever this Contract requires the determination of labor hours, it shall be determined as follows:

1. Labor Hours shall be based on the labor factors as published in "RSMeans" by Reed Construction Data. The latest versions of the following books shall be used:

a. Building Construction Cost Data
b. Electrical Cost Data
c. Mechanical Cost Data
d. Plumbing Cost Data
e. Site Work and Landscape Cost Data

2. In the event that a labor factor for an item of work is not available from these publications the Director shall establish a labor factor as to the amount of time it takes to perform an item of Work.

a. Conditions that affect the performance of the extra work whether addressed in the Contract Documents or not shall be taken into consideration and negotiated.
b. Unforeseen conditions or conditions that are not identifiable shall not be included in the Contractor's proposal. If while in the process of performing the omitted or extra work a condition or event that affects the work becomes evident, it will be addressed at that time via a field order or change order.

D. Materials:

1. Materials used in performance of the extra work shall conform to Contract Documents and shall be listed by description, quantity, and standard unit of measure.
2. Where the extended value of an item of material is FIVE THOUSAND DOLLARS OR MORE a quote or invoice from a supplier shall be included as part of the Contractor's proposal. The Director's Representative reserves the right to request substantiating pricing documentation to verify actual and reasonableness of any and all submitted costs. This requirement does not impede Subparagraph 1.01 B. above.
3. Travel costs including mileage, tolls, and overnight lodging and meal per diems incurred as a result of the extra work will be reimbursed at costs without any markup for the Contractor or subcontractor as the case may be. Daily travel to the project site must exceed 35 miles, one way, from the Contractor's office address to claim mileage and toll expenses; only mileage beyond 35 miles will be reimbursed. Distance must exceed 50 miles, one way, from Contractor's office address to the project site to claim overnight lodging and meal per diems. Actual cost for overnight lodging and meal per diems will be reimbursed up to the maximum rates listed per locality, as established by U.S. General Services Administration (GSA).
4. Personal Protection equipment required for hazardous materials abatement and materials used to create critical barriers and protection barriers, provided that they are expended during the performance of the extra work or turned over to the State at the request of the Director's Representative, are reimbursable as part of an order on contract.

E. Whenever this Contract requires the determination of the cost of equipment, it shall be determined as follows:

1. Equipment used or to be used in the performance of Work shall be specifically described by the manufacturer, model number and date of manufacture and be of suitable size and capacity required for the work to be performed.
2. Equipment, excluding hand tools which are defined as tools and equipment having a new purchase price of less than ONE THOUSAND DOLLARS, and which will be used exclusively and directly on the Work. For the purposes of computing the Contractor's cost for self-owned equipment, the rate used for periods of under five days shall be the monthly

rate set forth for the item of equipment in the Equipment Watch® "Rental Rate Blue Book" published by Penton Media (800 669-3282) divided by 22 days to establish a daily rate and divided again by eight hours to establish an hourly rate. The rate used for periods of 5 days or more shall be 45% of the published monthly rate. In the event the "Rental Rate Blue Book" does not list the item of equipment used, the applicable rate shall be determined in the same manner as set forth above except that the monthly rate used shall be that set forth in "The AED Green Book" published by Penton Media (800 669-3282). In the event that a rate is not established in the "Rental Rate Blue Book" or "The AED Green Book" for a particular piece of equipment, the Contracting Officer shall establish a rate for ownership costs and operating costs for that piece of equipment that is consistent with its cost and expected life. Self-owned equipment is defined to include equipment rented from controlled or affiliated companies.

3. Rented equipment will be paid for at the actual rental cost. Equipment rented for the Work used in the performance of extra work will be reimbursed for operating costs only.
4. For the purposes of the performance of extra or additional work, when, in the opinion of the Contractor, and as approved in writing by the Director's Representative, suitable equipment is not available on the Site, the moving of said equipment to and from the Site will be paid for at actual cost.
5. Notwithstanding any other provision, if the State should determine that the nature or size of the equipment used by the Contractor in connection with the performance of Work is larger or more elaborate, as the case may be, than the size or nature of the minimum equipment determined by the State to be suitable for the performance of Work, the cost of equipment used in calculating the costs of extra work or delay damages will not be based upon the equipment used by the Contractor but instead will be based on the smallest or least elaborate equipment determined by the State to have been suitable for the performance of the Work. In no event shall the amount paid to the Contractor as the allowance for the use of self-owned construction equipment exceed the lower of the actual cost of such equipment or the depreciated value of such equipment as carried on the Contractor or subcontractors' books.
6. The Contractor shall be reimbursed for its operating costs for self-owned equipment based on actual cost data. Operating costs shall include fuel, lubricants, other operating expendables, and preventive and field maintenance. Operating costs do not include the operator's wages. In the event, after documented and demonstrated due diligence, actual operating costs are not ascertainable, then the Contractor will be compensated utilizing 100 percent of the operating costs set forth in the "Rental Rate Blue Book" and the Contractor shall be reimbursed the product of the number of hours of actual use multiplied by the operating cost per hour.
7. The maximum amount of reimbursement for the ownership costs of self-owned equipment is limited to the original purchase price of the equipment as listed in the "Green Guide for Construction Equipment" published by Penton Media (800) 669-3282. In the specific event when the ownership reimbursement is limited by the original purchase price, the Contractor shall, nevertheless, be reimbursed for the operating cost per hour for each hour of actual use.

F. Insurance and Bonds:

1. The additional cost of all required Bonds and Liability and Builder's Risk Insurance Premium required by this Contract, arising from the additional cost of performing extra work shall be paid by a change order or field order to be issued upon physical completion

of the Work and upon the submission of proof of payment of such additional premiums assessed by the respective insurance companies for such additional cost of the extra work.

2. Should the additional work require an additional insurance policy not initially required or anticipated in the execution of the contract, whether required of the Contractor or a subcontract between the Contractor and a subcontractor actually performing extra work, will be reimbursed based on actual cost.

G. Unless otherwise specifically provided for in an order on contract or field order, the compensation specified therein for extra work includes full payment for both the extra work covered thereby and for any damage or expense caused the Contractor by any delays to other work to be done under the Contract resulting from or on account of said extra work, and the Contractor waives all rights to any other compensation for said extra work, damage or expense.

H. In computing the value of an order on contract or field order which involves additions and deletions of work and the cost of the added work exceeds the cost of the deleted work, overhead and profit shall be computed on the amount by which the actual cost of additional labor and material exceeds the actual cost of the deleted labor and material, except no additional overhead and profit shall be allowed on the value of any order on contract or field order determined by the method provided in Subparagraphs 1.01 A. 1.b. or 1.01 A. 3.

I. In computing the value of an order on contract or field order which involves additions and deletions of work and the cost of the deleted work exceeds the cost of the added work, the Contractor will be allowed to retain the overhead and profit on the amount by which the cost of the deleted work exceeds the cost of the added work, except that no overhead and profit shall be retained on the cost of work determined by the method provided in Subparagraphs 1.01 A. 1.b. or 1.01 A. 3.

J. Subject to the provisions of Article 17A of the General Conditions, the following elements of damage, and only the following elements, as determined by the Contracting Officer, will be recoverable by the Contractor as "delay damages" provided that they are actual, reasonable and necessary:

1. Documented additional or escalated job site labor expenses.
2. Documented additional or escalated costs for materials.
3. Documented additional or escalated equipment costs less appropriate credits, as such are determined in accordance with this Section.
4. Documented costs of extended job-site overhead (including job superintendent, office engineer and clerical staff, but not including working foremen).
5. An additional 15 percent of the total of the above items in Subparagraphs 1.01 J. 1., 2., 3. and 4. for home office overhead and profit thereon.
6. Documented additional or escalated insurance and bond costs.
7. When the work is performed by a subcontractor, the Contractor shall be paid the actual, reasonable and necessary cost of such subcontracted work as outlined Subparagraphs 1.01 J. 1. through 4., including the subcontractor's main office overhead and profit of 15 percent. The Contractor shall also be allowed an additional 5 percent administrative fee for processing.
8. The phrases "additional expenses", "escalated expenses", "additional costs" and "escalated costs" shall include expenses and costs above or below those normally incurred in the performance of the work, less any appropriate credit, and/or attributable, with appropriate

credits, to the performance of work or portions of work in a different time period than that which was indicated on the approved progress schedule.

K. The parties agree that, with regard to delay damages, the State will have no liability for the following items and the Contractor further agrees it shall make no claim for the following items:

1. Profit, in excess of that provided for above.
2. Loss of anticipated or unanticipated profit.
3. Labor inefficiencies and loss of productivity.
4. Home office overhead in excess of that provided for above.
5. Consequential damages, including but not limited to interest on monies in dispute, including interest which is paid on such monies, loss of bonding capacity, bidding opportunities, or interest on retainage or investment, or any resultant insolvency.
6. Indirect costs or expenses of any nature.
7. Direct or indirect costs attributable to performance of work where the Contractor, because of situations or conditions within its control, has not progressed in a manner satisfactory to the Executive Director.
8. Attorneys' fees or claims preparation expenses.

L. Remedies Exclusive: With respect to extra costs and delay damages, the parties agree that the State shall have no liability to the Contractor for expenses, costs, or items of damage other than those which are specifically identified as payable above. In the event any legal action is instituted against the State by the Contractor on account of any extra work or for additional compensation, whether on account of delay, acceleration, breach of contract, or otherwise, the Contractor agrees that the State's liability will be limited to those items which are specifically identified as compensable above. The Contractor further agrees to make no claim for expenses other than those which are specifically identified as compensable above.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012200

SECTION 013000.01 - ADMINISTRATIVE REQUIREMENTS-ECP Version

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Other requirements pertaining to payments are included in the General Conditions and in the various sections of the Specifications.

B. Cost Computations: Section 012200.

C. Submittals: Section 013300.

1.2 WAIVER OF CERTAIN SUBMITTAL REQUIREMENTS

A. The Electronic Contractor Payments (ECP) program facilitates electronic submission of payment applications and related documents and information via a secure web-based portal. This portal is hereinafter referred to as the "Vendor Interface". Hardcopy (paper) submission of the following forms is waived, and the information required by these forms shall be submitted via the Vendor Interface:

1. BDC 169 (Contractor's Application for Payment form).
2. BDC 187 (Detailed Estimate form).
3. BDC 329 (Contractor's List of Subcontractors–Suppliers).

1.3 SCHEDULES AND RECORDS

A. Submit the following information not later than 15 days after approval of the Contract unless the Contractor or the Director determines an earlier submission is required to properly schedule or progress the Work.

1. CONTRACTOR'S LIST OF SUBCONTRACTORS – SUPPLIERS: An affirmative review of the subcontractor's responsibility will be conducted. Any subcontractor disapprovals resulting from negative information derived from the State's review will result in written notice (by letter or e-mail) to the Contractor. A responsibility meeting may result from these actions. The Contractor will defer to the provisions of Article 6, General Conditions, regarding its responsibility to prosecute the work.

a. Submit the CONTRACTOR'S LIST OF SUBCONTRACTORS – SUPPLIERS information using the required electronic entry process via the Vendor Interface.
b. Indicate the items of Work proposed to be accomplished by subcontractors, the name and address of each proposed subcontractor, the dollar value of the subcontract, and Minority and Women-Owned Business Enterprise (MWBE) information.

1) Attach a properly completed and executed NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE – FOR PROFIT CONSTRUCTION (CCA-2) and forward to the Vendor Responsibility Unit for each subcontractor whose subcontract is valued at $100,000.00 or more unless requested otherwise by the Contracting Officer and/or the Director's Representative.
2) As an alternative to submitting a paper version of the form, subcontractors may opt to submit the CCA-2 on-line via the New York State VendRep System. Information on this system and the New York State vendor responsibility requirements is available at: http://www.osc.state.ny.us/vendrep/index.htm.

c. Indicate the names and addresses of proposed suppliers, the dollar value of the supplies, and MWBE information.
d. Failure in providing this information may result in payments being withheld and referral to the Contracting Officer for a responsibility determination.

B. If after initial approval, circumstances require a change in a subcontractor or supplier or require additional subcontractors or suppliers to be used, use the Vendor Interface to submit a revised BDC 329 form that reflects the changes or additions.

1.4 DETAILED ESTIMATE

A. Before making the first requisition for a progress payment, prepare a detailed estimate of quantities and prices for materials, labor and other items required for the Work, which shall aggregate the contract sum.

1. Submit the DETAILED ESTIMATE information using the required electronic entry process via the Vendor Interface.

B. The detailed estimate shall be supported by such evidence, including certified copies of subcontracts, as the Director may require.

C. The detailed estimate must be approved by the Director who may revise it as, in their reasonable judgment, is necessary to make the various items conform to their true values.

1. The value of each requisition for payment shall be based on the approved detailed estimate.

D. The Contractor shall bill any item of work listed as "Lump Sum" to 100%, no partial percentages will be allowed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013000.01

SECTION 013113 - PROJECT PLANNING AND SCHEDULING

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS AND INFORMATION SPECIFIED ELSEWHERE

A. Summary of the Work: Section 011000.

B. Administrative Requirements: Section 013000.

C. Project Meetings: Section 013119.

1.2 SUMMARY

A. Section includes administrative and procedural requirements to plan, schedule, and document the progress of the Project, work in place, and predict and prevent delays to established activities and milestones during performance of the Work.

1.3 DEFINITIONS

A. Activity: A task or grouping of tasks containing an anticipated start-date and corresponding duration in work days, anticipated labor resources, person responsible for the work, restricted work period, contract reference document, sequence of work, and budgeted cost (if required) comprising a generalized portion of the Work, that can be identified and measured for planning, coordinating, monitoring, and controlling the project.

B. Activity Duration: Time needed for the represented work in work days. No duration in any baseline or recovery schedule shall be longer than one (1) reporting period as defined in Section 013119, except for submittal items. All procurement and work activities must be provided in sufficient detail to meet this duration requirement.

C. Baseline Agreement: The agreement document for Section 013113 which will contain the baseline schedule report.

D. Baseline Project Schedule: The schedule derived from the Contractors' Project Work Plan activities and their prescribed durations, predecessor activities, etc., recognizing the completion of the Work of the Project Work Plan in accordance with the Contract duration. The Baseline Project Schedule will remain unaltered as a tool to measure progress outlined and anticipated during the Initial Schedule Meetings and from the agreed-upon Baseline Project Schedule. The Project Team will agree to the resulting schedule by completing the Baseline Agreement within the Project Work Plan software. OGS Scheduling will maintain the agreed-upon Baseline Project Schedule as the assigned project baseline schedule.

E. Calendar: The calendar utilized for each activity, set according to the direction of OGS Scheduling to accurately reflect anticipated State and Federal holidays. Calendars reflecting

additional shifts or non-traditional work hours must be reviewed with the Director's Representative and approved by OGS Scheduling and prior to use in the schedule.

F. Constraints: Constraints are a function which can manipulate or hold specific dates. Constraints are used by OGS Scheduling in specific instances during the baseline process to hold dates dictated by the terms of the Contract or assigned to submittal & procurement items in the Project Work Plan. Constraints are not allowed to be used/entered by Contractors on any activities except for mobilization items.

G. Data Date: The progress point or "status date" for activities/tasks in the project. Project status is up-to-date as of the Data Date. OGS Scheduling will specify the Data Date for each Project Update Reporting Period.

H. Float: The measure of latitude in starting and/or completing an activity without impeding the successful realization of Project Milestones. It is an expiring Project resource that is jointly owned, not for the exclusive use or benefit of either the State or the Contractors. Float is available as needed to meet scheduled milestones and Project completion. Recognizing float within an activity, or chain of activities, does not permit the Contractors to disrupt progress or to delay completion of an activity.

I. Milestone Activity: A significant start or finish to Work on a given set of activities on the Project, defined by both the Director's Representative and the Contractors. The Project Team will identify milestones, activities, or summary activities for incorporation into the Baseline or Project Schedule to assist in planning, scheduling, and coordinating the Project. This may include major milestones or phases required by the Contract Documents to be utilized by the Contractors and Project Team in developing the Baseline Project Schedule.

J. OGS Project Work Plan System (OGS PWPS): The collaborative online system provided by OGS for Contractors to establish their Project Work Plan activities, duration, prerequisites, resources and budgeted cost (if required) for Work of the Project. All work is entered into the OGS PWPS by the Contractor(s).

1. Importing of any information is not allowed.
2. Time lags are not allowed to be scheduled between activities.

K. OGS Scheduling: The department responsible for assisting and training the Project Team, reviewing, reporting, and interpreting the Contractor Project Work Plan and related information.

L. Preliminary Project Schedule: This schedule is a summary outline of the Contractor's anticipated Project Work Plan for the sequence of work of this Contract through Substantial Completion as noted in the Summary of Work (Section 011000). The activities are developed using anticipated dates and are coordinated among the Contractor(s). The resulting Schedule outlines and aligns the sequence of work for the individual Contract and coordinates the Contracts that are part of a multiple trade Project. The Project Work Plan needs to address sequencing of the work, long lead items, and impact of weather and restricted work periods as noted in Section 002219. The Project Team will agree to the resulting schedule by completing the Baseline Agreement within the Project Work Plan software.

M. Project: Work to be performed as part of one or more Contracts.

N. Project Team: The Designated Representatives acting on behalf of the State and/or Contractors to successfully plan, schedule, and coordinate the Work of the Project.

O. Project Update Reporting Period (Project Schedule Updates): A regular reporting period as stipulated for this Project in Section 013119, that is concluded by a Project Update Meeting for review, evaluation, and adjustments to the Project Work Plan and Activity progress.

P. Project Work Plan: A comprehensive list of Contractor tasks, including prerequisite activities, durations, labor resources, budgeted costs (if required), etc. used to develop the Project Schedule as entered by the Contractor's Supervision staff in the OGS PWPS.

Q. Recovery Project Schedule: Revised Project Work Plan developed from recovery options presented by the Contractor to the Director's Representative when Project Update Reporting indicates the Work is 15 or more work days behind the current Substantial Completion dates of the agreed-to Baseline Project Schedule. The Contractor will update their Project Work Plan accordingly for the revision. The Project Team will agree to the resulting recovery project schedule by completing the Baseline Agreement within the Project Work Plan software. OGS Scheduling will maintain the Baseline Agreement Recovery Project Schedule as the assigned Baseline Project Schedule.

1. The Recovery Project Schedule will only be reviewed by OGS when it is entered in the OGS PWPS

R. Resource: Any labor (workers), material, or equipment, shared or exclusive, required for the completion of the Work or an Activity, for which an associated cost is recognized.

S. Schedule: A comprehensive plan of necessary procedural tasks, including task sequencing, projected start and finish dates, and resource allocation required to successfully complete the Work by the Project completion date. The dates in the Schedule are the result of the sequence, duration, and requirements from the Project Work Plan.

## PART 2 - PRODUCTS

### 2.1 SCHEDULE SOFTWARE

A. The Project Work Plan software (Oracle Primavera) is provided by OGS through the OGS PWPS for use on this OGS contract only.

B. Contractors are required to have Internet access to utilize the OGS PWPS for all parts of this section.

C. Meetings will be held in accordance with Section 013119 and will be conducted via WebEx™ or an equivalent online method provided by OGS.

D. OGS will provide training for access and use of the OGS PWPS. Additional support is available by OGS Scheduling as requested.

PART 3 - EXECUTION

3.1 PROJECT AWARD

A. OGS Scheduling will establish one account for each Contractor.

B. The Initial Schedule and Training Meeting is coordinated by the Director's Representative and Project Team. Prior to the meeting all Contractor accounts need to be set up by OGS Scheduling.

3.2 INITIAL SCHEDULE MEETING – (PERIOD DEFINED BY SECTION 013119)

A. The meeting is mandatory for the members of the Project Team and will be conducted by OGS Scheduling for the purpose of defining the intent of the specification and reporting structure of the Project. The mutual agreements reached at this and subsequent meetings form the basis for the Baseline and other Project Schedule(s), and will be used for coordinating, scheduling, and monitoring the Work of all related contracts.

B. This meeting also includes training for the Project Team using the OGS PWPS. Each session will be one hour (total of two hours) via WebEx™ or an equivalent online method provided by OGS.

1. SESSION 1 - Preliminary Project Schedule & Initial Training
2. SESSION 2 - Baseline Project Schedule Training

3.3 PRELIMINARY PROJECT SCHEDULE – (PERIOD DEFINED BY SECTION 011000, if specified)

A. In the OGS PWPS, the Contractor will develop their Project Work Plan activities and provide information relating to activity naming, anticipated work dates, resources, and budgeted cost (if required) on the OGS PWPS. The Project Team will establish a focused work breakdown structure (WBS). The activities are developed using anticipated dates and are coordinated among the Contractor(s).

B. Activities are to be appropriately placed within the OGS PWPS. Activity durations are only limited by the requirements of coordinating the work of the Preliminary Project Schedule by the Project Team. For the purposes of coordinating this schedule, relationships (predecessors and successors) are not required between the activities.

C. The Preliminary Project Schedule must be agreed to by the Project Team. Each Contractor and the Director's Representative shall agree to it by completing the Baseline Agreement within the Project Work Plan Software (sample agreement included at the end of Section 013113) .

3.4 BASELINE PROJECT SCHEDULE – (45 DAYS AFTER AWARD)

A. The Contractor(s) shall develop and enter their Project Work Plan activities which adequately represent their scope of Work of the Contract and the required coordination efforts for the Project. This includes, but is not limited to, sequence requirements, identification of logical connections to other work critical to Substantial Completion, accounting for critical submittals or submissions,

the fabrication and delivery of long-lead materials, products, specialized equipment or services, and the recognition of critical testing, inspection, or commissioning durations for coordination and tracking.

B. Each activity will identify the Contractor's anticipated duration for the activity defined in workdays, resources, and budgeted cost (if required) of the activity. The Contractor is responsible to provide the mandatory requirements outlined by OGS and the online OGS PWPS layout within the project structure provided by OGS. Revisions to the project structure must be agreed upon by the Project Team.

C. Activity durations cannot exceed the time frame in work days of the Project Reporting Period as defined in Section 013119.

D. The Contractors will identify each activity with a unique Activity Name that clearly communicates the scope of the work item to the rest of the Project Team. No Activity Name or Activity ID will be altered without approval of the Director's Representative and OGS Scheduling after the Baseline Project Schedule has been agreed to by the Director's Representative.

E. The Baseline Project Schedule must be agreed to by the Project Team. Each Contractor and the Director's Representative shall agree to it by completing the Baseline Agreement within the Project Work Plan software (sample agreement included at the end of Section 013113).

## 3.5 PROJECT SCHEDULE UPDATES (PERIOD DEFINED BY SECTION 013119)

A. Project Schedule meetings will be led by the Director's Representative and held to review Contractor updates to the actual starts, actual finishes, and remaining duration of in-progress activities, and consider logic changes, predecessor alterations, duration amendments, time impact events, and scope changes, for the purpose of determining the status of construction progress for the updated Project Schedule. At each meeting the Project Team will:

1. Agree to the completed Activity dates.
2. Coordinate and agree to the next 6-week Project Work Plan.
3. Evaluate and acknowledge any impact to the Contractor's ability to execute the Project Schedule according to the Baseline Project Schedule.

B. During the progress of Work on the Project, the Contractors are required to document actual start, actual finish, and remaining duration on a daily basis. Information will be posted by the Contractor to the OGS PWPS as defined during the Initial Schedule Meeting.

C. Contractors are required to update the status of all their activities two (2) days prior to the Project Schedule Meeting. The Contractors will notify the Director's Representative and OGS Scheduling when their update information for all activities is complete.

1. Any variation of 5 days (+/-) in the start or finish date for each activity must be explained and posted to each activity.
2. All necessary initiated documents such as Request for Information (RFI), Information Bulletins (IB), Field Orders (FO), Change Orders (CO), and Notice of Claim (NOC) must be incorporated by the Contractor into the Contractor's Work Plan.

3. Any Contractor failing to progress their Work as outlined in the updated Project Work Plan will be informed of their deficiencies and, if required, be requested to provide a recovery option.

D. Performing Work out of sequence with the Project Schedule is not permitted unless written approval is obtained from the Director's Representative prior to commencement.

## 3.6 RECOVERY PROJECT SCHEDULE

A. When the Project Schedule completion date is projected to be greater than the agreed-to Baseline Project Schedule's Substantial Completion date by 15 or more work days, the Contractor(s) will revise the existing Project Work Plan as necessary towards meeting the specified completion date within 10 calendar days after the Project Schedule update meeting.

B. Contractor recovery options may include, but are not limited to, allocating additional resources to reduce activity duration or modify activity sequencing.

C. Alterations to the Project Work Plan activities for a Recovery Work Plan will require the approval of the Contractor(s) and the Director's Representative. Agreed-to alterations to the Project Work Plan activities for a Recovery Work Plan will constitute the updated Project Schedule.

D. The updated Project Schedule must be agreed to by the Project Team. Each Contractor and the Director's Representative shall agree to it by completing the Baseline Agreement within the Project Work Plan Software (sample agreement included at the end of Section 013113).

E. The previous Baseline Project Schedule will be retained. The new agreed-upon Baseline Project Schedule will be used to measure progress moving forward.

## 3.7 SCHEDULE CLOSEOUT (AS-BUILT SCHEDULE)

A. A schedule meeting must occur to update the project schedule with the actual progress dates and to confirm that all activities are complete for Substantial Completion.

B. The Director's Representative will determine if any of the original Substantial Completion activities need to be tracked for Physical Completion in the project schedule.

## 3.8 TIME IMPACT AND TIME IMPACT ANALYSIS (TIA)

A. The Contractor(s) will represent the impact relative to the assigned Baseline Project Schedule in the OGS PWPS. The Contractor will incorporate the impact of any change in their Work Plan per the current OGS PWPS requirements for impacts. The requirements include but are not limited to:

1. A day-for-day tracking of the impact to illustrate the sequence of the impact from the initiating event.
2. All information required to create an Activity and the associated codes for the impact in the OGS PWPS as defined previously.

3. Modification of existing activities so that the name of each associated task enhances the reader's understanding of the impact. Modification of the associated (TIA) codes for the change in the OGS PWPS.
4. For the addition of any new activities, an explanation of how the modified scope impacts the agreed-to Baseline Project Schedule.

B. Contractors and the Project Team will use the most current Project Work Plan update to prepare the Time Impact representation.

C. If Project Work Plans have not been updated in accordance with this specification, an update by the Contractor must be generated which includes an accurate realization of the Work performed and progressed up to the Time Impact event. Failure to maintain Project Work Plan updates in accordance with this or related specifications will not absolve the Contractors of the responsibility to identify Time Impact as defined by, but not limited to, Specification Section 013113 or the General Conditions.

D. OGS Scheduling will assist the Contractor with this process as requested.

E. A Request for Time Extension will require Time Impact recognition within the OGS PWPS and Schedule.

F. Time Impact events will be reviewed for accuracy and are to be updated in accordance with relevant new information regarding time for resolution and impact to the remaining work on the Project.

G. All impacts (sequence, duration, and scope) must be agreed to by the Project Team.

## 3.9 SUBSTANTIAL COMPLETION DATE CHANGES

A. If the Substantial Completion date of the project is modified by an Order on Contract in accordance with the General Conditions, the Project Team will agree to a new Baseline Project Schedule within 10 calendar days after the approval of the Order on Contract.

1. The previous Baseline Project Schedule will be retained. The new agreed-upon Baseline Project Schedule will be used to measure progress moving forward.
2. The new Baseline Agreement must be agreed to by the Project Team. Each Contractor and the Director's Representative shall agree to it by completing the Baseline Agreement within the Project Work Plan Software (sample agreement included at the end of Section 013113).

SAMPLE BASELINE AGREEMENT

## Baseline Agreement

NEW YORK STATE OF OPPORTUNITY. Office of General Services Design & Construction

**Project:**

**It is agreed that the referenced Project Schedule defined by the following reports has been reviewed and is accepted for use in coordinating, scheduling, and monitoring the work of all related contracts**

**By acknowledging within the Project Work Plan software, OGS does not waive the terms and conditions set forth in the Contract Documents. In accordance with the General Conditions (Document 007213) any change in the Contract sum or time of completion requires an Order on Contract.**

**Refer to the following report for the specific dates.**

| Contract | Representative | Activity Name | Date |
|---|---|---|---|

END OF SECTION 013113

SECTION 013119 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 INITIAL JOB MEETING

A. The Director's Representative will notify all parties concerned of the time and place of the initial job meeting. The meeting will be conducted by the Director's Representative. The agenda will be based on the Format for Initial Job Meeting. All items on the format, as they apply, will be discussed.

1. A copy of the Facility's current Visitor Identification Policy will be distributed.

1.2 PROJECT SCHEDULE MEETINGS

A. The Initial Schedule Meeting will be held within 15 days of Project award. The Director's Representative will notify all members of the Project Team of the time and place of the meeting. The meeting will be conducted by the Director's Representative and OGS Scheduling via WebEx™ or an equivalent online method for the following purposes:

1. Define the intent of the specification.
2. Review the reporting structure of the Project.
3. Provide training to the Project Team.

B. The Director's Representative will notify all members of the Project Team of any Schedule development/coordination meetings conducted by the Director's Representative and OGS Scheduling via WebEx™ or an equivalent online method.

C. The Project will have monthly project update reporting periods. The update meetings will be conducted by the Director's Representative and OGS Scheduling via WebEx™ or an equivalent online method for the following purposes:

1. Agree to the completed Activity dates.
2. Coordinate and approve the next 6-week Project Work Plan.
3. Evaluate and acknowledge any impact to the Contractor's ability to execute the Project Schedule according to the approved Baseline Project Schedule.

1.3 BI WEEKLY JOB MEETINGS

A. Unless otherwise directed, job meetings will be held bi weekly, at a time and place agreed upon by the Director's Representative, the Contractor, and the Facility Representative. Other interested parties may attend when needed, e.g., subcontractors and representatives from suppliers, public utilities, and local government. The meetings will be conducted by the Director's Representative for the following purposes:

1. Review job progress, quality of Work, and approval and delivery of materials.

2. Identify and resolve problems which impede planned progress.
3. Coordinate the efforts of all concerned so that the project progresses on schedule to on-time completion.
4. Maintain sound working relationships between the Contractors and the Director's Representative, and a mutual understanding of the project requirements.
5. Maintain sound working procedures.

1.4 PRE-INSTALLATION MEETINGS

A. Pre-installation meetings will be held to review the specifications, Project Schedule, drawings, and approved submittals in preparation for start of a particular activity.

B. The meetings shall be attended by the Director's Representative, a Design Representative, and the Contractor's Representative, including installer and representatives of manufacturers & fabricators involved in or affected by the installation and its coordination with other materials/trades.

C. The Director's Representative shall schedule the meetings prior to the start of the work. The goal of these meetings is to ensure the quality of construction and to maintain the schedule.

1.5 ATTENDANCE

A. A Contractor's Representative shall be required to attend all meetings scheduled by the Director's Representative, as set forth above.

B. If the Contractor's Representative fails to attend two scheduled meetings without prior approval, the Contractor will be directed to replace the current Contractor's Representative. Further incidents of non-attendance by the Contractor's Representative will form the basis for review of the Contractor's responsible vendor status.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013119

SECTION 013300.0 - SUBMITTALS

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Other requirements pertaining to submittals are included in the General Conditions and in the various sections of the Specifications.

B. Summary of the Work: Section 011000.01.

C. Administrative Requirements: Section 013000.

D. Contract Closeout Submittals: Section 017716.

1.2 DEFINITIONS

A. Deviation: Changes in products, materials, equipment and methods of construction from those required by the Contract Documents and proposed by the Contractor.

B. Acceptable Manufacturer, Company or Product: A manufacturer, company or product capable of achieving the requirements established in the Contract Documents and demonstrating compliance.

C. Portable Document Format (PDF): An open standard file format used for representing documents in a device-independent and display resolution-independent fixed layout document format.

D. Environmental Product Declaration (EPD): a third-party verified (also known as “type III”) product declarations that quantify environmental information the full life cycle of a product, from raw material supply, transport, manufacturing, installation, and operational use, through to waste processing and disposal at end-of-life, per ISO 14025.

1.3 DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS

A. Deviations from the requirements of the Contract Documents will not be allowed unless a request for deviation is made in writing prior to or at the time of submission and the specific deviation is approved by the Director’s Representative subject to the requirements of Article 4 of the General Conditions. The request for deviation shall be made utilizing the CONTRACT DOCUMENT DEVIATION REQUEST FORM (Form BDC 49) accessible from the OGS Web Site.

1. The submission of a deviation shall be done in a timely manner according to the schedule of submittals to allow the Director sufficient time for review.

1.4 "OR EQUAL" TO BRAND NAME PRODUCTS

A. Whenever a product is specified by brand name, a comparable brand, equal to that named, may be submitted for approval subject to the requirements of Article 5 of the General Conditions.

1. The Contractor shall bear the burden of proving that the proposed product is equal to the specified product. The submission of an "or equal" shall be done in a timely manner to allow the Director sufficient time to review the proposed product.
2. Whenever a color or pattern is indicated by a specific manufacturer's name or number, the intent is to communicate the required color or pattern of the material. Other manufacturers' comparable colors or patterns may be submitted for approval as equal.

1.5 WAIVER OF CERTAIN SUBMITTAL REQUIREMENTS

A. Unless otherwise specified, the requirement to submit product data and samples for approval will be waived for products specified by brand name if the specifically named products are furnished for the Work. In such cases, submit required Product Data to the Director's Representative via Submittal Exchange® for information only.

1.6 ADMINISTRATIVE REQUIREMENTS

A. Participate in the OGS's hosted web-based collaboration service (Submittal Exchange® at www.submittalexchange.com) to transmit and track Contractor provided project related documents.

B. Identify submittals by project title and number. Include Contractor's name, date, and revision date. On shop drawings, product data and samples, also include the name of the supplier and subcontractor (if any), and applicable specification section number. Stamp each submittal and initial or sign the stamp to certify review and approval of submittal.

C. Assemble submittals in accordance with the requirements in the individual sections of the Specifications and as required by this section. It is the Contractor's responsibility to review and verify that all information required for each submittal is included in the submittal package. Errors or omissions found by the Contractor are to be corrected prior to the submission of the submittal package for approval. Incomplete submittal packages that have been submitted for review and approval will be returned.

1. It is the Contractor's responsibility to verify that portions of the submittal package to be provided by a subcontractor (or supplier) are complete, as well as portions of the submittal package being provided directly by the Contractor.
2. Do not combine the submittals of more than one specification section with submittals required by other specification sections unless specifically stated in the contract Specifications.

D. If a submittal is based on, or the result of, a change order or field order to the Contract Documents, include copies of the applicable change order or field order with the submittal.

E. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each specification section concurrently unless instructions for partial submittals are required in a specific specification section requiring sequential submissions.
3. Submit action submittals and informational submittals required by the same specification section as separate packages under separate transmittals.
4. Coordinate transmittals of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. The Director's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

F. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on uploading the submittal to Submittal Exchange®. No extension of the project schedule will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow time for the initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. The Designer of Record will advise the Director's Representative when a submittal being processed must be delayed for coordination.
2. Resubmittal Review: Allow time for review of each resubmittal.
3. Sequential Review: Where sequential review of submittals by the project team is necessary for coordination, allow time for review.

G. The Construction Contractor shall employ or otherwise provide a full-time Submittal Coordinator for no less than 90 days after the Initial Job Meeting (IJM). The Submittal Coordinator is responsible to manage, coordinate and facilitate the submittal process on behalf of the Contractor. The Submittal Coordinator shall have regularly been engaged in construction administration for a minimum of 3 years and shall not be employed or otherwise engaged as the Project Manager or Superintendent for either the Work of this Contract or be employed in any role, full or part time, outside of this Contract.

## 1.7 SUBMITTALS

A. Submittal Coordinator Qualifications: Not later than 10 days after Award. Include resume and references, and other certification, licenses, or other requested information.

B. Schedule of Submittals acknowledgement: Provide written acknowledgement that the Schedule of Submittals has been received and reviewed with Critical Submittals identified and Contractor's Projected Dates (three dates inserted into each column) are entered for each specification item.

## 1.8 RE-EVALUATION FEE

A. In accordance with Article 4.7 of the General Conditions, a re-evaluation processing fee will be levied against the Contractor for each re-evaluation of a Submittal or Submittal Package

submission that was returned for failure to comply with the submittal requirements relative to completeness, content or format.

## 1.9 ELECTRONIC SUBMITTALS

A. Submittal Exchange® is used to provide an on-line database and repository which shall be used to transmit and track project related documents. The intent for using this service is to expedite the construction process by reducing paperwork, improving information flow, and decreasing submittal review turnaround time.

1. Project submittals (shop drawing, product data and quality assurance submittals) shall be transmitted by the Contractor in PDF to Submittal Exchange®, where it will be tracked and stored for retrieval for review. After the submittal is reviewed it is uploaded back to Submittal Exchange® for action or use by the Contractor and Director's Representatives.
2. The service also tracks and stores documents related to the project such as RFI's (Request for Information), IB's (Information Bulletins), CAD Coordination, Minutes, Testing, Closeout, and SWPPP documents.

B. For each submittal, the Contractor shall review and apply electronic stamp certifying that the submittal complies with the requirements of the Contract Documents, including verification of manufacturer/product, dimensions and coordination of information with other parts of the work.

C. It is the Contractor's responsibility to provide submittals in PDF. The Contractor may use the following options:

1. Subcontractors and suppliers provide electronic submittals in PDF to the Contractor through Submittal Exchange®.
2. Subcontractors and suppliers provide paper submittals to the Contractor, who electronically scans and converts them to PDF.
3. Contract a Scanning Service, which will allow the Contractor and the Contractor's subcontractors and suppliers to provide paper submittals to the Scanning Service, which electronically scans and converts them to PDF. It will be the Contractor's responsibility to transmit the scanned submittals to Submittal Exchange®.

D. Image Quality:

1. Image resolution: The PDF files shall be created at a minimum resolution of 200 dots per inch utilizing the original document size. The Contractor will be responsible to increase the resolution of the scanned file or images being submitted as required to adequately present the information.
2. Image Color Rendition: When information represented requires color to convey the intent and compliance, provide full color PDF reproduction.

E. Internet Service and Equipment Requirements:

1. The Contractor will be required to have an Email address and Internet access at Contractor's main office.
2. Unless the Contractor will exclusively be using a Scanning Service to create PDF documents, the Contractor will be required to own a PDF reviewing, creating and editing software, such as Adobe Acrobat (www.adobe.com), Bluebeam PDF Revu®

(www.bluebeam.com), or other similar PDF reviewing, creating and editing software for applying electronic stamps and comments.

F. Training and Support:

1. Submittal web-based collaboration training and support shall be available, free of charge from Submittal Exchange®, for project participants using the submittals website.
2. Training schedule will be coordinated through the Director's Representative.

G. Paper prints (hardcopies) of reviewed submittals:

1. Record Copy: Each Contractor shall provide one paper copy of each submittal they are responsible for to the Director's Representative within 14 days of receipt of a released submittal (i.e. marked "Approved", "Approved As Noted", or other implied acceptance of a submittal), or meeting the requirements of Waiver Of Certain Submittal Requirements Article of this specification section.

   a. Exception: Paper copies are not required for a submittal that is disapproved or requiring resubmission.
   b. Paper copies shall be printed in a size format equal to the original document.
   c. Scaled Shop Drawings shall be printed to the scale noted on the drawings.
   d. The resolution of the printed copy shall be equal to that of the PDF file that it is being printed from.
   e. The Record Copy shall be used by the Director's Representative during the construction of the project and shall be retained as a turn-over item to the facility at the end of the project as required under Section 017716 Contract Closeout.

2. Use for Construction: Retain complete copies of submittals on project site. The Contractor shall not commence work for related activities until the appropriate submittals are approved and the corresponding record copies are delivered to the Director's Representative.
3. Distribution: The Contractor will furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Maintain transmittal forms indicating distribution of submittals.

## 1.10 SHOP DRAWINGS

A. Provide shop drawings in the format required by the Specifications. Show the information, dimensions, connections and other details necessary to insure that the shop drawings accurately interpret the Contract Documents. Show adjoining construction in such detail as required indicating proper connections. Where adjoining connected construction requires shop drawings or product data, submit such information for approval at the same time so that connections can be accurately checked.

B. Electronic copies of CAD Drawings of the Contract Drawings will not be provided by the Director's Representative for Contractor's use in preparing submittals.

C. Have shop drawings prepared by a qualified detailer. Shop drawings shall be neatly drawn and clearly legible. Machine duplicated copies of Contract Drawings will not be accepted as shop drawings.

1. Where shop drawings are indicated to be drawn to scale:

    a. Use scale normally found on an “Architect” or “Engineer” scale.
    b. Written Scale: Clearly label scales being used on each drawing and/or on each detail on the drawing.

        1) Examples: 1/8” = 1’-0” 1” = 40’-0”.

    c. Graphic Scale: Adjacent to each Written Scale, provide a graphic scale delineating the scale being used. Graphic scale shall be divided into measuring units relating to the accuracy required for the drawing or details.
    d. Clearly dimension key elements of the drawing or detail.

2. When the drawing sheet is printed full size, the minimum text size shall be 1/8" (3.2 mm) for hand drafting and 3/32" (2.5 mm) for CADD drawings.

D. Submit the shop drawings through Submittal Exchange®. The shop drawings will be reviewed and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review. If the review results in disposition of “DISAPPROVED” or “RETURNED FOR CORRECTION”, promptly correct the deficiencies and resubmit the shop drawings meeting Contract requirements.

## 1.11 PRODUCT DATA

A. Provide product data in the format required by the Specifications. Modify product data by deleting information that is not applicable to the project or by marking the product data to identify pertinent products. Supplement standard information, if necessary, to provide additional information applicable to project.

B. Submit the product data through Submittal Exchange®. The product data will be reviewed and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review. If the review results in disposition of “DISAPPROVED” or “RETURNED FOR CORRECTION”, promptly correct the deficiencies and resubmit the product data meeting Contract requirements.

C. Comply with applicable federal and State of New York Right-to-Know Law provisions. Provide Safety Data Sheets (SDS) documents for products that have SDS data prior to use on the project site.

1. Upload and maintain electronic SDS documents on the Submittal Exchange® SDS tab.
2. SDS tab is organized by prime contracts. To be readily identified, name products with SDS by specification section number and product name.
3. Supply and maintain one hard copy of the appropriate SDS on the project site and one hard copy with the Facility’s Right-to-Know Information Officer.

## 1.12 ENVIRONMENTAL PRODUCT DECLARATION (EPD)

A. Provide EPDs for the specific material required by the Specifications, if available.

B. Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 Environmental labels and declarations, ISO 14044 Environmental management – Life cycle assessment, and ISO 21930 Core rules for environmental product declarations of construction products and services.

C. Include completed Environmental Product Declaration (EPD) Cover Form found on the OGS Web Site with the submission of each EPD.

D. Submit the product data through Submittal Exchange®. The EPD will be reviewed, and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review. If the review results in disposition of "DISAPPROVED" or "RETURNED FOR CORRECTION", promptly correct the deficiencies and resubmit the product data meeting Contract requirements.

1.13 QUALITY ASSURANCE

A. Provide quality assurance information in the format required by the Specifications, including supporting documentation as required.

B. Submit the quality assurance information through Submittal Exchange®. The quality assurance information will be reviewed and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review. If the review results in disposition of "DISAPPROVED" or "RETURNED FOR CORRECTION", promptly correct the deficiencies and resubmit the quality assurance information meeting Contract requirements.

1.14 SAMPLES

A. Submit 2 (unless a different number is specified) of each sample required by the Specifications.

B. Samples will become the property of the State when submitted and will not be incorporated in the Work unless specifically stated otherwise.

C. The electronic submittal process is not intended for color samples, color charts, or physical material samples.

D. Record transmittal of each sample required by the Specifications through Submittal Exchange®.

E. Consult with the Director's Representative for direction on where Samples will be sent for review.

F. The sample will be reviewed and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review.

1.15 REVIEW OF SUBMITTALS

A. Items submitted for review will be reviewed for compliance with the Contract Documents, based upon the information submitted. The items will be acted upon with the following dispositions:

1. Approved:

a. Where the submittal is marked “Approved”, the work covered by the submittal may proceed provided it complies with the Contract Documents. Final acceptance will depend on that compliance.

2. Approved as Noted:

a. Where the submittal is marked “Approved as Noted”, the work covered by the submittal may proceed provided it complies with the review comments noted on the submittal and the Contract Documents. Final acceptance will depend on that compliance.

3. Disapproved:

a. Where the submittal is marked “Disapproved”, do not proceed with the work covered by the submittal, including purchasing, fabrication, delivery or other activity for the item submitted. Prepare a new submittal according to the review comments noted on the submittal and meeting the Contract Documents.

4. Returned for Correction:

a. Where the submittal is marked “Returned for Correction”, do not proceed with the work covered by the submittal, including purchasing, fabrication, delivery or other activity for the item submitted. Revise or prepare a new submittal according to the review comments noted on the submittal and meeting the Contract Documents.

5. Acknowledged:

a. Where the submittal is marked “Acknowledged”, receipt of the submittal is acknowledged and has been recorded.

6. No Action:

a. Where the submittal is marked “No Action” or “No Action Taken”, no review was made of this item, see comments noted on submittal and take appropriate action.

7. Multi-Action:

a. Where the submittal is marked “Multi-Action”, separate dispositions were made for the items submitted, see the review comments for the disposition of each item submitted.

## 1.16 SCHEDULES AND RECORDS

A. Submit the following Schedules and Records information not later than 15 days after approval of the Contract unless the Contractor or the Director determines an earlier submission is required to properly schedule or progress the Work.

1. SCHEDULE OF SUBMITTALS (S.O.S.):

a. Follow the Instructions to the Contractor in the S.O.S (cover page of the Microsoft Excel form supplied by the State).
b. Confirm submittal items listed and indicate in the spaces following each item, the date the item will be submitted (Projected Transmittal Date).
c. Confirm critical submittals and long lead items identified by the Architect / Engineer. Identify and mark with "X" additional submittals deemed as critical or having long lead times. In addition to the date each item will be submitted, include the date approval is required (allow at least 3 weeks), and the date delivery of the material or equipment is necessary for timely completion of the Work in accordance with the Project Schedule.
d. Notify the Director's Representative of modifications and/or additional submittals necessary for the project prior to requesting revisions with Submittal Exchange®.

2. SUBMITTALS WEBSITE LOG:

a. The submittal website log will be populated by Submittal Exchange® by means of the S.O.S.
b. Review the log and verify that all long lead items and critical submittals are properly indicated according to the latest version of the S.O.S. For each item to be submitted indicate the following:

1) In the "Date Expected" column insert the date the item will be submitted for review and approval (this is the same date as the S.O.S "Projected Transmittal Date").
2) In the "Date Requested on Site" column insert the date the item will be delivered to the project site (this is the same date as the S.O.S "Projected Delivery Date").

c. The submission date that is entered shall provide sufficient time for the item to be reviewed, ordered, delivered and installed for timely completion of the Work in accordance with the Project Schedule. The date entered for submittal of each item is the last day a deviation will be considered.

## 1.17 TRANSMITTALS

A. Submittal Transmittal (Form BDC 42) accessible from the OGS Web Site:

1. Furnish separate Form BDC 42 for each submitted item sent to Submittal Exchange® for review.

a. Contractor may utilize their own Transmittal Form (or Transmittal Letter) in lieu of utilizing the Form BDC 42, contingent on the Contractor's Transmittal Form includes all information and certifications required by Form BDC 42.

2. Clearly identify applicable specification section number of submitted item (product data, shop drawing, etc.) on the Form BDC 42.

B. All Contracts:

1. Transmit items designated in the Schedule of Submittals (and project Specifications) to the Submittal Exchange®.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300.0

SECTION 013350 - COMPUTER AIDED DESIGN COORDINATION DRAWINGS

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS AND INFORMATION SPECIFIED ELSEWHERE

A. Project Meetings: Section 013119.

B. Submittals: Section 013300.

C. Coordination of Trades: Work of different trades that interfere between mechanical, plumbing electrical, architectural, and structural work shall be avoided by the contractor, within the limits of the practical amount of space required for operation and service of equipment. Keep pipe, duct, conduit, and the like as close to ceiling slabs, walls, columns, etc. to assure maximum benefit of the minimal space allowed. Locate piping, ductwork, and equipment so they do not interfere with the intended use of the operational equipment, and architectural elements. Organize piping, conduit and ductwork in all areas neatly, in an organized arrangement in accordance with approved coordination drawing submittals, in straight, plumb layouts utilizing best quality workmanship for appearance, function and serviceability.

1.2 COORDINATION DRAWINGS

A. The Director's Representative will establish a CAD Administrator (CA) to administer and monitor progress of Coordination Drawings, coordinate and schedule review meetings and protocol for all contractors and distribute information as outlined in this section.

B. The "Base" architectural and structural background drawings will be provided as Computer Aided Design (CAD) files in Autodesk's AutoCAD 2004 or 2007 file format by the CA. The CA will meet with the contractors to determine which version of AutoCAD and which file format they will be using to produce drawings for this project. These "Base" background documents are to be provided to each Contractor in the coordination process to establish a common platform for each Contractor to use for their design drawings. This same information will be used to communicate their respective coordination with the other Contractors.

C. Each Contractor and all of their subcontractors shall prepare as part of its costs, shop drawings in compatible format which will be used for incorporation into the coordination drawings.

D. Work shall start on the coordination drawings within seven (7) days after the initial job meeting. The initial coordination drawing(s) shall be produced by the "C" Contractor starting with the "Base" CAD background drawing supplied by the Director's Representative. These backgrounds shall be updated and modified with integration and revision of CAD drawings for new construction to indicate conditions for approved final layouts for foundations, steel framing, concrete reinforcing, and access flooring approved rough-in layout plans. All building structural elements, walls, doors, windows, louvers, openings, ceiling layouts, access floor layouts and major equipment provided by the C contractor and other significant elements shall be shown on designated layers. Scheduled heights for finished ceilings above finished floor, and height above

finished floor of underside of concrete and metal decks and all beams and joists including provision for fireproofing and finished enclosures shall be indicated at all areas.

1. The "C" Contractor shall provide full size "CAD" files for each level, to be plotted at 3/8" or approved coordination scale as directed by the CA.

    a. All larger coordination drawings, broken up with match lines to correlate with phases and distinct plan areas with drawing designations, shall be supplied by the "C" Contractor and approved by the CA.
    b. All coordination drawings will have the location of plan view information the same. The CA shall establish a point of origin for each drawing and these X and Y positions will not be altered by any Contractor.

2. Each Contractor in the "CAD" Coordination process shall utilize prefixes as established by the CA. Examples of some of those prefixes to be used are as follows:

    a. "B" - Architectural Backgrounds.
    b. "SM" - HVAC Ductwork.
    c. "HV" - HVAC, Piping, Controls, etc.
    d. "PL" – Plumbing.
    e. "EL" – Electrical.
    f. "FP" - Fire Protection.
    g. "ST" – Structural.
    h. "RC" – Reflected Ceilings.
    i. "AF" – Access Flooring.

3. All fonts utilized shall be as found in the agreed upon version of AutoCAD software. If not as specified, the *.shx or *.ttf file shall be provided by the respective Contractor and approved by the Director's Representative. All text height shall be a minimum of 3/32" when plotted in scaled plans.

    a. Compatible hardware and software for completion of designated coordination drawings and communication to the CA is to be included into the bid price.
    b. It shall be the responsibility of each contractor to translate drawings submitted by sub-contractors that were created in alternate CAD programs to the correct format before submission to the CA.

4. Transferring of coordination information drawings from Contractor to Contractor will be by the use of the OGS Project FTP site. Instructions for access to the site will be provided after award of contracts.
5. The final "BASE" Architectural Background drawings will be provided to each Contractor in the coordination process on the FTP site by the "C" contractor. The coordination drawings on disks, including one original vellum and nine prints, shall be forwarded to the CA for approval at each stage in the process by the contractor making the latest modifications.
6. A cross-reference list of drawings shall be provided by each Contractor correlating the drawings list with the "CAD" file name.
7. All altered, changed and/or revised coordination drawings, after resolution of conflicts by the Contractors, shall be submitted via the FTP site.
8. Coordination drawings shall be prepared for the following areas:

a. All areas (above ceiling).
b. Below raised access floors, slab penetrations and inserts.

9. Separate coordination plans shall be prepared for the following areas:

a. Mechanical rooms.
b. Electronics rooms.
c. Electrical rooms.
d. Communications rooms.
e. Radio room.
f. UPS.

E. The sequence of drawings being passed on from one Contractor to another, and the responsibility of each shall be as follows:

1. The initial base Architectural Background drawing, including architectural elements as noted above, shall be placed on the FTP site for each Contractor to access. The CA shall be responsible for periodically updating the base drawings with approved architectural revisions. Each Contractor shall be responsible for submitting drawing files to the FTP site, in the same manner outlined and in the format outlined in this Section. It is the responsibility of each Contractor to check the FTP daily for updates to the drawing files.
2. Within 10 days from date of issue of the Architectural Background by the CA, the "C" Contractor will submit proposed plan layouts and drawing designations. The "C" Contractor will promptly update the backgrounds with detailed layout information based on verification of conditions and dimensions including but not limited to column and beam locations and clear height from finished floors to underside of structure indicating all permanent obstructions. The base drawings provided by the Director's Representative are drawings that were prepared for use in the printing of bid documents. While generally accurate, there is no guarantee of perfect dimensional accuracy of these initial CAD files. It is the responsibility of the "C" Contractor to verify conditions that may vary and to assure the accuracy of drawings showing new construction. The background drawings shall be further updated by the "C" contractor with detailed layout information based on approved shop drawing submittals for steel framing, decking and reinforcing, ceilings and access flooring. Within 60 days from award of contract the "C" Contractor will complete the final Architectural Backgrounds with information outlined above and post on the FTP site, and will notify the CA, the Director's Representative, and all other contractors. Shop drawing submittals must be expedited for all necessary components to complete this work in a timely manner. The "C" contractor will plot the final background drawings and submit 5 sets of prints for approval to the CA.
3. Within 21 days of date of issue of final background drawings by the "C" contractor, the "H" contractor will post updated drawings to the FTP site indicating accurate layouts for all his/her work including equipment size and locations, HVAC piping and ductwork indicating all sizes and height above finished floors, grilles, registers, diffusers, dampers, valves, equipment connections and all major components based on approved submittals, and will notify the CA, the Director's Representative, and all other contractors. Shop drawing submittals must be expedited for all necessary components to complete this work in a timely manner. HVAC ductwork shop drawing submittals and approvals must precede the application of this information to the coordination drawings and the addition of piping and other work. The "H" contractor will plot the updated background drawings and submit 5 sets of prints for approval to the CA.

4. Within 15 days from date of approval of updated backgrounds by the "H" contractor, the "P" contractor will post updated drawings to the FTP site indicating accurate layouts for all plumbing systems indicating sizes and height above finished floor at regular intervals, fixture locations and fire protection systems, and will notify the CA, the Director's Representative, and all other contractors.
5. Within 15 days from date of issue of updated backgrounds by the "P" contractor, the "E" contractor will post updated drawings to the FTP site indicating accurate layouts for all electrical equipment, conduit runs, all lighting fixtures and electrical devices indicating mounting locations and height above finished floor, and will notify the CA, the Director's Representative, and all other contractors.
6. Contractors may submit completed drawings to the FTP Site prior to the total duration established for each contractor. The CA will schedule the sequence for early submissions.

F. Computer Software/Hardware

1. Contractors shall produce their drawings using the agreed upon version of AutoCAD. Contractors may request to use other CAD software, but only with the understanding that they must submit drawings that follow the requirements outlined in this Section.
2. Contractors shall be equipped with a 56 Kbps or greater modem for file transfer with the FTP site, using Microsoft's Internet Explorer version 6.0 (service pack 2) or later for file transfer. Contractors shall be experienced in the use of that modem software before commencement of the drawing process outlined above.

G. Computer Drawings/Files

1. Each Contractor shall be assigned a "Contractor Code" that shall be used throughout the computer drawings in computer file names and drawing layer names. Those prefixes for example are assigned as follows:

| CONTRACTOR | SUBCONTRACTOR CODE |
|---|---|
| C | ST - Structural |
| E | EL - Electrical |
| C | EV - Elevator |
| E | FA - Fire Alarm |
| P | FP - Fire Protection |
| H | HV - HVAC |
| P | PL - Plumbing |
| C | RC - Reflected Ceiling |
| H | SM - Sheet Metal |
| C | AF - Access Flooring |

2. Each base drawing file shall be renumbered with each revision with the addition of the Contractor Code. The original drawing file names shall be issued by the "C" Contractor with the release of each approved final background drawing.
3. Each Contractor shall place their work on drawing layers starting with the two letter designations. A layer list will be issued at the initial coordination meeting.
4. Each Contractor shall be assigned a color for their layers to easily distinguish their work from the other Contractors. Contractors shall not deviate from that color without specific instructions.

5. Text size shall be a minimum of 8" in a 1/8" drawing. All text shall be on a separate layer. See attached layer list for each Contractors text layer. All text and callouts shall be located on drawing as not to interfere with other existing data. Contractors shall not deviate from the fonts assigned unless approved by the CA. If non-standard AUTOCAD fonts are used, Contractor shall supply fonts with drawing files.
6. All dimensions shall be placed on their own layer. See attached layer list for each Contractors dimension layer. Each Contractor shall have their own dimension style defined in the DIMS command as SM-DIMS, HV-DIMS, PL-DIMS etc.
7. Any and all blocks used in the drawings shall be created on layer 0 unless otherwise directed. Blocks can then be inserted on Contractor's layer.
8. All questions to be addressed by the Director's Representative shall be placed on the Contractors Questions layer.
9. All beam and slab penetrations shall be shown on the drawings on separate layers with special designations and unique colors to be determined.
10. When a revision is made to a drawing that has been previously issued, or when a specific question or problem area needs attention by others, it shall be clouded and referenced by the Contractor with a revision number. The revision number symbols shall be issued by the CA. The clouds shall be constructed with the cloud command list routine issued by the CA. Clouds and revision numbers shall be placed wherever an addition, deletion, or a change is made, or where an unresolved question remains. The Contractor shall be responsible for checking with the CA for the Revision number to be placed on any particular drawing, and the layer on which that revision number shall be placed.

H. Once the CA receives each final background drawing from the "C" Contractor, the "C", "H", "P", and "E" Contractors shall meet at a minimum weekly meetings to be held to review the status of the coordination process, and drawings which the foremen and/or Superintendent of each Contractor will be required to attend. Each Contractor will be required to bring at least one color plot of all areas to be coordinated of the most current version on the FTP site at that week's meeting. Each affected Contractor shall review, sign and date each updated coordinated drawing which will indicate their agreement that the coordination drawing(s) has (have) been fully coordinated and are void of all conflicts at each stage. Final completed coordination drawings (after submission by the "E" Contractor) shall be signed off by each Contractor, the Director's Representative, and the CA. Any work in place not in conformance with final approved coordination drawings will be required to be removed and relocated unless specific written approval has been obtained by the Director's Representative to proceed with certain specific work in advance of final approval.

I. Any conflicts, etc., discovered in the coordination stages prior to Contractor(s) sign-off which cannot be resolved by the Contractor(s) shall be brought to the attention of the Director's Representative for immediate resolution by the Director at no additional costs to the State. Contractors shall allow for a minimum of one coordination meeting per week.

J. Any conflicts, etc., discovered after coordination sign-off and during the installation of the Work will be the responsibility of the Contractor(s) to resolve with the approval of the Director. Additional costs, if any, for these resolutions shall be solely the responsibility of the Contractor(s).

K. It is the responsibility of the "C" Contractor to verify the accuracy of the final background drawings, and of each subsequent Contractor to verify the completeness and accuracy of the updated information of their own work and to confirm the absence of conflict with other work.

L. A coordination drawing schedule will be developed by the CA for tracking and reporting the status of coordination drawings with the overall project schedule to which all Contractors shall be responsible.

M. Work fabricated/installed prior to the completion of this process is performed at the Contractors own risk, and compensation of time/costs for corrections will not be allowed.

N. During the project these drawings shall be kept up do date by each prime contractor to reflect any and all changes due to field changes, change orders and field orders and shall be used as a basis of the required "As-Built" drawings. At the completion of the contract the construction contractor shall gather the latest information and turn over 5 paper sets and two CDs of the final updated Coordination drawings which is in addition to the specified trade "as-built" drawings for each prime contract

O. Each Contractor shall be responsible for timely updates to the coordination drawings to indicate as-built conditions for their own work. Updates are required to include all changes regardless of the source or reason for the change, including changes initiated by the Director or the Director's Representative. These "as-built" coordination drawing documents (diskettes, mylars, and prints) shall be turned over by each Contractor with certification as to their accuracy, to the Director's Representative upon substantial completion of the project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013350

SECTION 014100.01 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 COMPLIANCE

A. Comply with applicable regulatory requirements and various codes referenced in these specifications. Where conflicts exist between local, State, and/or Federal regulatory requirements, codes, or these specifications, advise the Director's Representative. The Director's Representative will assist in resolving the conflicts to the satisfaction of the regulatory agencies prior to commencing the Work.

1.2 UNIFORM CODE, ENERGY CODE, AND CONTRACTOR QUALIFICATIONS

A. All Work shall comply with OSHA (including site-specific safety plans required on all projects), and the New York State Uniform Fire Prevention and Building Code (the "Uniform Code"), which includes the publications incorporated by reference in Title 19 NYCRR Part 1219 through 1228:

1. 2020 Building Code of New York State (the "Building Code")
2. 2020 Plumbing Code of New York State (the "Plumbing Code")
3. 2020 Fire Code of New York State (the "Fire Code")
4. 2020 Property Maintenance Code of New York State (the "Property Maintenance Code")
5. 2020 Existing Building Code of New York State (the "Existing Building Code")
6. All other standards referenced in 19 NYCRR Parts 1219 through 1228.

B. The contractor shall be aware of, and comply with, contractor requirements identified in the above-referenced codes and standards; for example, but not limited to:

1. OSHA (Occupational Safety and Health Administration).
2. 2020 Building Code Chapter 33 Safeguards During Construction.
3. 2020 Existing Building Code Chapter 15 Construction Safeguards.
4. 2020 Fire Code Chapter 33 Fire Safety During Construction and Demolition.
5. 2020 Fire Code Chapter 35 Welding and Other Hot Work (which governs safety during construction).

C. All Work shall comply with the 2020 Energy Conservation Construction Code of New York State ("Energy Code") promulgated pursuant to Article 11 of the New York State Energy Law. The Energy Code is contained in 19 NYCRR, Part 1240, and in the publications incorporated by reference in 19 NYCRR Part 1240. The publications incorporated by reference in 19 NYCRR Part 1240 include:

1. The publication entitled "2020 Energy Conservation Construction Code" published by International Code Council, Inc.
2. The publication entitled "ANSI / ASHRAE / IES Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings" published by American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc.

3. The other referenced standards mentioned and/or referred to in 19 NYCRR Part 1240.

1.3 STATE-REQUIRED PERMITS AND INSPECTIONS

A. No Work shall commence without a Construction Permit issued by the OGS Division of Codes and Construction Permitting. Contractors shall not file for and not pay for Construction Permits for Work located on New York State property.

1.4 LISTINGS

A. Equipment and materials for which Underwriters' Laboratories, Inc. (UL) provides product listing service, shall be listed and bear the listing mark.

1. Alternately, any product listed and bearing the mark from one of the other Nationally Recognized Testing Laboratories (NRTL – as recognized by OSHA) shall be an acceptable alternative to being UL listed and marked if the listed product has been tested to the applicable standard.

1.5 FIRE-RESISTANT CONSTRUCTION MATERIALS AND ASSEMBLIES

A. Conform to the fire rating classifications based upon the test methods and acceptance criteria in the "Standard for Fire Tests of Building Construction and Materials" for which Underwriters' Laboratories, Inc. (UL) provides listings.

1. Materials and assemblies shall comply with the acceptance criteria, detailed description of the assembly, its performance in the fire test, and other pertinent details such as specification of materials, Classification coverage, and alternate assembly details.
2. Alternatively, fire resistance rating classifications by other issuing organizations listed in the New York State Uniform Fire Prevention and Building Code are acceptable.

1.6 MATERIALS WITH TRACE AMOUNTS OF ASBESTOS

A. Perform Work required to remove, disturb, or repair any material that contains less than 1 percent by weight of asbestos (trace) in accordance with all applicable OSHA regulations (29 CFR Part 1926.1101).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014100.01

SECTION 014216 - DEFINITIONS

PART 1 - GENERAL

1.1 DEFINITIONS SPECIFIED ELSEWHERE

A. Other definitions are included in Article 2 of the General Conditions and in various sections of the Specifications.

1.2 DEFINITIONS

A. The following terms shall have the meanings ascribed to them in this Section, wherever they appear in the Contract Documents.

1. Air Handling Unit: Equipment in which air is heated, cooled, humidified, dehumidified, filtered, deodorized, sterilized, etc., and is moved by mechanical means either within the equipment or externally through ductwork.
2. Cold Water Inlet: That part of distribution piping beginning with a connection to the service piping, and which contains the main shut-off valve, strainer, pressure regulators, gages and appurtenances required for control of the distribution water system for the building. The cold water inlet is part of the distribution system.
3. Company Field Advisor: An employee of the Company which lists and markets the primary components of the system under their name who is certified in writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation and servicing of the required products. Personnel involved solely in sales do not qualify.
4. Drains: Piping connections and valves used for purpose of (a) determining operating conditions of water columns, gage glasses, piping to feedwater heater and other regulators, and (b) piping connections and valves used for removal of contents or sludge and other forms of deposits from tanks, heaters, regulator bodies, and low points in piping systems.
5. Drainage System: Piping and appurtenances required to convey sewage, storm water, and liquid waste from plumbing fixtures, equipment and drains to a point of discharge outside the building.
6. Ductwork, Concealed: Ductwork built into construction and not accessible without removal of construction Work such as masonry, plaster or other finishing material, and ductwork installed in floors, furred spaces, suspended ceilings and behind removable panels.
7. Ductwork Exposed: Ductwork directly accessible by normal accesses without the removal of any construction Work or material.
8. Headroom: Minimum clearance between the floor and the underside of the point of lowest installed mechanical construction above. In case of stairways and walkways, the minimum clearance between the step or surface of the walkway and lowest installed mechanical construction above the stairway or the walkway.
9. Location, Dry: Location not normally subject to dampness or wetness.
10. Location, Damp: Location subject to moderate degree of moisture, including:

a. Partially protected locations under canopies, marquees, roofed open porches, and like locations.
b. Installations in exterior walls.
c. Interior locations such as unheated basements, unheated barns, and cold-storage areas.

11. Location, Wet: Location subject to saturation with water or other liquids, including:

a. Installations underground.
b. Locations exposed to the weather and unprotected.
c. Installations in concrete slabs on grade (with or without vapor barrier between slab and grade).
d. Installations under concrete slabs on grade.
e. Installations in concrete or masonry walls in contact with the earth (with or without membrane waterproofing between wall and earth).
f. Vehicle washing areas and like locations.

12. Mechanical: General term applicable to HVAC, Plumbing, Sprinkler, Laboratory Equipment, Food Service Equipment, Laundry Equipment, and Refrigeration.
13. Piping: This term includes pipe, tube and appurtenant fittings, flanges, valves, traps, hangers and supports.
14. Piping, Concealed: Piping built into construction and not accessible without removal of construction Work such as masonry, plaster or other finishing material and piping installed in floors, furred spaces, suspended ceilings, non-walk-in tunnels, conduits, behind removable panels and cabinet doors.
15. Piping, Exposed: Piping directly accessible by normal accesses without the removal of construction Work or material.
16. Piping, Distribution: Domestic water supply piping, starting with a connection to service piping, and continuing throughout the building to point of connection to equipment and fixture supply piping.
17. Piping, Service: Underground domestic water supply piping starting with a connection to a water main or supply as noted and continuing to and into a building and terminating with the first exposed fitting inside the building.
18. Piping, Tunnel: Piping installed in walk-in or non-walk-in tunnels or conduits up to first shut-off valve inside of a building.
19. Space, Finished: A space which has a finishing material applied to walls or ceilings such as paint, plaster, ceramic tile, enamel glazing, face brick, vinyl wall covering, etc. to provide a finished appearance or which will have such finishes applied under a related Contract.
20. Space, Unfinished: A space which does not meet the definition of a finished space.
21. Steam, High Pressure (HPS): Steam at pressure higher than 125 psig.
22. Steam, Medium Pressure (MPS): Steam at pressure higher than 15 psig, and not more than 125 psig.
23. Steam, Low Pressure (LPS): Steam at a pressure of 15 psig and below.
24. Water, Chilled: Water cooled by refrigeration.
25. Water, Cold: Water with a temperature between 33 degrees F. and 80 degrees F. and which is neither cooled nor heated mechanically.
26. Water, Domestic: Water for use in buildings, except water used in connection with space heating and space cooling.
27. Water, High Temperature: Water with a supply water temperature above 350 degrees F.

28. Water, Hot: Water with a temperature above 80 degrees F.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014216

SECTION 014339 - MOCKUP REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. 220719 “Plumbing Piping Insulation”.

B. 224000 “Plumbing Fitures”.

1.2 SUBMITTALS

A. Quality Control Submittals

1. Mockup Plan: Copy of proposed plan.

1.3 DEFINITIONS

A. Mockups (General): Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances.

1. Mockups are not Samples.
2. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

B. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.

1.4 QUALITY ASSURANCE

A. Mockup Plan: Detailed, dimensioned plans and elevations showing mockup size, and items and materials that will be included in proposed mockup.

B. Pre-Construction Conference: Prior to the construction of the mockup, a conference will be called by the Director’s Representative at the Site for the purpose of reviewing the requirements, and intent of mockup. The conference shall be attended by the Director’s Representative, Contractor, and person supervising this phase of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish as directed.

1. Build mockups in location and of size and profile indicated or as directed by the Director's Representative.
2. Notify the Director's Representative a minimum of 7 days in advance of dates and times when mockups will be constructed and able to be inspected.
3. Employ supervisory personnel to oversee mockup construction. Employ same workers that will be employed during the construction of Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Commence the Work after mockup has been inspected and approved in writing by Director's Representative.
6. The mockup will establish the standard of quality of workmanship by which the Work will be judged.
7. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work. Failure to maintain the mockup, until directed, will be cause for rejection of the Work.

B. Mockup Types: Construct mockup in accordance with approved shop drawings, project manual, and Contract Drawings, using exact materials and methods approved for the Project, including required accessories.

1. Room Mockups: Construct mockups incorporating required materials and assemblies, finished according to requirements. Provide required lighting and additional lighting where required to enable the Director's Representative to evaluate quality of the Work.

END OF SECTION 014339

SECTION 015000.02 - CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide the construction facilities and temporary controls necessary for the Work, unless otherwise indicated.

1. The construction facilities and temporary controls specified to be provided by a particular Contract shall be kept operational by that Contractor for the Work of all related Contracts at all times Work is being performed by a Contractor.
2. The construction facilities and temporary controls specified to be provided by a particular Contractor shall be installed as soon after award of the Contract as necessary to enable the Work of each Contract to proceed on schedule and maintained until completion of the Work of all related contracts unless otherwise directed in writing.
3. Any Contractor who requires additions to the construction facilities and temporary controls specified to be provided by another Contractor, shall provide and maintain them.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Disposal of Asbestos-Containing Materials: Section 028213.

1.3 TEMPORARY LIGHT AND POWER

A. Electrical energy for temporary light and power is available and will be made available without charge.

B. Extent of Temporary Wiring: Contractors may ascertain the extent of the temporary wiring provided under the Electrical Work Contract by examining the Electrical Drawings.

C. Electrical Work Contract:

1. During any shutdowns and during upgrades to the building electrical service, provide portable source of electricity for temporary light and power of adequate capacity to supply the needs of all contractors for the performance of their Work until the temporary electrical service can be utilized for temporary light and power.
2. Provide wiring and other equipment within the building for temporary light and power.

a. Wiring for temporary light and single phase power shall, in general, consist of 4 wire, 120/208 volt feeders, with branch circuits of #12 conductors minimum.

1) Install branch circuits with suitable fluorescent fixtures or incandescent lampholders for temporary lighting as required to maintain a minimum of 10 foot candles in the work areas. Equip fixtures and lampholders with guards.

Fixtures and lampholders installed in damp or wet locations shall be of the weatherproof type.

2) Install branch circuits with fused grounding type receptacle outlets for single phase power (for power tools, etc.).

3) Install 2 circuits with fluorescent fixtures or incandescent lampholders in corridors and stairs. Space fixtures or lampholders no more than 30 feet apart in corridors. Install fixture or lampholder at each stair landing. Also install one fixture or lampholder in each boiler room and mechanical equipment room (connect to the corridor and stair lighting circuits).

4) Keep the corridor and stair lighting maintained and energized 24 hours per day, 7 days per week.

a. Install wiring for 3 phase power for machines and other heavy electrical loads consisting of 3 phase, 3 wire, 600 volt feeder with fused disconnect switches as indicated. A maximum motor load will be coordinated with the Electrical Contractor on each feeder.

1) Provide a fused sealed service entrance switch for corridor and stair lighting circuits. Locate switch adjacent to and connect to line side of temporary light and power service entrance switch. Stencil cover "CORRIDOR AND STAIR LIGHTING".

2) Provide lamps and fuses including replacements required.

D. All Contracts:

1. Any Contractor requiring additional lighting shall provide additional fluorescent fixtures or incandescent lampholders (with lamps), but in no case shall the load on any branch circuit or feeder exceed its rated capacity.
2. Install materials for temporary light and power in conformance with the National Electrical Code.
3. Materials for temporary light and power need not be new if they are in satisfactory operating condition.
4. Provide ground-fault protection for personnel (such as portable plug-in type ground-fault circuit-interrupters) on single phase 15 and 20 ampere receptacle outlets which are in use.
5. Receptacle outlets, portable cord connectors and attachment plugs shall have standard NEMA configurations.
6. As the progress of the Work allows, and as approved, completed portions of the permanent wiring and electrical service may be utilized for temporary light and power.

## 1.4 TEMPORARY WATER

A. Water will be made available for the Work without charge at source or sources directed within the limits of the existing supply and usage.

B. Plumbing Work Contract:

1. Make arrangements and pay for water for temporary service.

2. Provide and maintain a temporary water system, of such size and capacity as to adequately supply the needs of all contractors during performance of their Work.
3. The permanent water lines may be used for temporary water service if potable water is carried in the lines.
4. Protect temporary lines against freezing.
5. Repair damages caused by installation of leaky, defective or broken piping, connections or other fittings.

C. All Contracts: Prevent waste of water.

## 1.5 TEMPORARY TOILETS

A. Construction Work Contract: Provide toilet facilities for Contractor's and subcontractors employees engaged on the Project, including employees of other contractors. Locate toilets where directed and maintain them in a sanitary condition.

| NUMBER OF EMPLOYEES | MINIMUM NUMBER OF FACILITIES |
|---|---|
| 20 or less | 1 toilet |
| 20 or more | 1 toilet and 1 urinal per 40 employees |
| 200 or more | 1 toilet and 1 urinal per 50 employees |

*Toilet/Urinal Combinations shall count as only one facility.

1. Where water and sewer connections are available, provide water closets, otherwise provide approved chemical or electric toilets.
2. Inside buildings, locate toilet facilities no more than 4 stories or 60 feet above or below, nor more than 500 feet travel on the same level from the work location of any person.
3. Locate toilet facilities no more than 1000 feet from any work location.

    a. Exception: Mobile crews having readily available transportation to nearby toilet facilities.

## 1.6 PROTECTION AND MAINTENANCE OF HVAC SYSTEM

A. HVAC Work Contract: Maintain the existing HVAC system as to adequately supply the needs of all contractors during performance of their Work and as approved to accomplish the following:

1. Protect materials and equipment being installed as part of the Contract from freezing.
2. Allow for a comfortable environment to enable workers to accomplish their respective tasks in a satisfactory manner.
3. Maintain construction schedules.

B. When, in the opinion of the Director's Representative, the construction is substantially complete, the Director's Representative will arrange for operation of the heating system in accordance with the provisions of Article 20 of the General Conditions concerning State occupation and operation. At such time, Contractor will be relieved of responsibility for temporary heat.

1. Clean and with the Director's Representative present, test existing HVAC system before arranging for State operation.

## 1.7 PROTECTION OF WORK AND EXISTING PROPERTY

A. Protect installed Work and existing property during performance of the Work.

B. Maintain the building in a watertight condition during performance of the Work.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at wall projections, jambs, sills, and soffit of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, and movement of heavy objects by covering them with durable sheet materials.

F. Protect smoke detectors from airborne dust and debris.

1. At the beginning of each work day, provide protective coverings over smoke detectors in areas where airborne dust and debris will be generated by the Work.
2. At the end of the work day, clean the areas in which the smoke detectors are located by whatever means necessary to assure that airborne dust and debris will not contaminate the smoke detectors, then remove protective coverings.
3. Provide signs, instructions, and alternate methods for reporting a fire during the periods that the smoke detectors are covered.
4. Notify the Director's Representative and have procedures approved.

G. Prohibit traffic or storage upon waterproofed and roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

H. Protect existing trees and plants during performance of the Work unless otherwise indicated. Box trees and plants within the grading limit lines. Do not deposit excavated materials or store building materials around trees or plants. Do not attach guy wires to trees.

I. Prohibit traffic from landscaped areas.

J. Cleaning tools of cementitious and other insoluble materials:

1. Do not wash tools in sinks or other sanitary drainage systems. Protect all drainage systems from debris that can clog or damage piping and fixtures.
2. Take all precautions necessary to prevent cementitious and other insoluble materials from flowing into floor drains.
3. Dispose of excess cementitious and other insoluble debris with the other rubbish.

## 1.8 BARRIERS AND ENCLOSURES

A. All Contracts: Provide barriers during performance of the Work to:

1. Prevent unauthorized entry to work areas.
2. Allow for State's occupancy of Site.
3. Protect existing facilities and adjacent properties from damage.

4. Protect vehicular and pedestrian traffic.

B. Construction Work Contract:

1. Temporary Partitions: Provide temporary partitions to form fire resistive barriers between work areas and areas occupied by State personnel. Construct the partitions of 3-5/8 inch width steel framing or 2 x 4 wood framing, with 5/8 inch thick Type X (ASTM C 36) gypsum board on both sides of partition. Secure the partitions in place without damaging existing construction. Seal joints on the State occupied side with joint tape and compound. Provide 1-3/4 inch thick solid core flush wood doors or 18 gage flush steel doors, and steel door frames. Equip doors with full mortise hinges and lockset. Furnish the Director's Representative with 2 keys for each lock.
2. Temporary Dust Barriers: Provide temporary dust barriers to prevent the spread of dust from the work areas. Construct the dust barriers of wood framing sheathed with 6 mil polyethylene film. Secure the dust barriers in place without damaging existing construction.
3. Scaffolding, Hoist, and Equipment Barriers: Provide temporary fence enclosures as required to prevent unauthorized persons from coming in contact with ground supported scaffolding, hoists, and equipment.

1.9 SECURITY

A. Key Deposits: A $25 deposit will be required for each key issued by the Facility. Deposits will be refunded upon return of the keys.

B. Facility Key Regulations:

1. Sign Facility keys out and in on a daily basis unless otherwise directed.
2. Keep keys on person at all times while on the premises. Do not loan or give keys to other persons.
3. Do not remove keys from the premises without written permission from the Director's Representative.
4. Report lost, missing, or stolen keys immediately to the Facility Safety/Security Department. Assume responsibility for cost of necessary key and lock replacement as a result of lost, missing, or stolen keys.

C. Identification Cards: Photo ID badges will be provided by the Contractor for all contractor employees. Badges will be held at the facility security desk and issued to authorized workers by the facility on a daily basis.

1. All Contractors, associated sub-contractor employees, and vendors shall provide all information required for background checks to meet installation access requirements to be accomplished by NYS DMNA/NYNG installation Security Office. Contractor workforce must comply with all personal identity verification requirements as directed by NYS DMNA/NYNG installation Security Office.
2. All contractor employees, including subcontractor employees and vendors who are not in possession of the appropriate security clearance, will be escorted in areas where they may be exposed to classified and/or sensitive materials.

3. In addition to the changes otherwise authorized by the changes clause of this contract, should the Force Protection condition (FPCON) at any individual facility or installation change, the Government may require changes in contactor security matters or process.

D. Promptly relock doors and security screens located in access routes, storage areas, and work areas after use.

E. Restore, by the end of each workday, existing in place safety/security items such as doors, screens, alarm systems components, that required removal, replacement, or adjustment to perform the Work, unless otherwise authorized in writing by the Director's Representative.

F. Remove all tools and materials from occupied work areas when the work areas are not attended by employees and at the end of each work day. Store tools in a locked tool box, cabinet, or shed. Store materials where directed.

G. Access and general protection/security policy and procedures:

1. Contractors, and all associated subcontractors and vendors (contractor workforce) shall provide a verified list of all scheduled and on-site employees to the facility/site force protection/security representative, daily.

## 1.10 WATER CONTROLS

A. Provide and maintain pumping equipment necessary to keep the work areas free from water. Discharge water into existing storm drainage systems or otherwise disperse as directed.

## 1.11 FIRE PREVENTION

A. Take precautions necessary to prevent fires.

B. Fuel for cutting and heating torches shall be acetylene or LP-gas only and shall be contained in Underwriters Laboratory or Federal Department of Transportation approved containers.

C. Furnish and maintain a currently inspected 20 pound capacity multi-class A:B:C fire extinguisher in the immediate vicinity where welding tools or torches are in use.

D. Furnish and maintain a currently inspected fire extinguisher of the appropriate class and size whenever the temporary storage of materials changes that areas classification of fire load or life safety.

E. Do not use flammable liquids, other than those specified, within a building without the written approval from the Director's Representative.

F. Tarpaulins shall be flameproof and shall be securely anchored when attached to scaffolding or when used to enclose any portion of a building.

G. If required by the nature of the work and facility regulations, the Contractor shall obtain from the facility and pay all costs associated with "Hot Work Permits" including fire watches to execute

the work of its contract. Perform hot work in accordance with the Fire Code of New York State and the Hot Work Program approved for the work. Prior to, during and after performing hot work, inspect the hot work area for compliance with the requirements of the permitted Hot Work Program.

1. Post signage “Caution: Hot Work In Progress - Stay Clear” in conspicuous locations warning others before they enter a hot work area where the area is accessible to persons other than the operator of the hot work equipment.

## 1.12 TEMPORARY FIRE PROTECTION

A. If the existing building is to be partially occupied during the course of the project, all existing exits, fire walls, fire barriers and fire protection systems shall be continuously maintained in the occupied phases in compliance with the Fire Code of New York State. Comply with NFPA 241 for items not specifically addressed in the Fire Code of New York State.

B. Those portions occupied by the facility must be available for their use 24 hours a day, seven days a week during the contract period unless otherwise scheduled in these documents.

C. Prior to removal of existing fire walls, fire barriers and fire protection systems, if such removal is part of the work, install equivalent temporary fire walls, fire barriers and fire protection systems as defined in these documents and as approved by the Director’s Representative and/or the facilities representative.

D. The cost of all labor, fire watches, variances, materials, installations, maintenance and removal of such temporary fire protection systems or modifications to the existing systems are the responsibility of the Contractor. Install permanent fire walls, fire barriers and fire protection systems, if provided as part of the work, as soon as practical.

## 1.13 ACCESS ROADS

A. Routes of ingress and egress on the premises to the location of the Work shall be as directed.

B. Keep designated access roads clear of dirt and debris resulting from the Work.

C. All Contracts:

1. Park vehicles in areas where directed.
2. Keep designated parking areas clear of dirt and debris resulting from the Work.
3. If requested, register vehicles which are to be parked at the Facility with the Facility Safety/Security Department.
4. Remove ignition key from unattended vehicles and lock doors.

D. Construction Work Contract: Remove snow from parking areas allocated to all Contractors.

1.14 RUBBISH REMOVAL

A. Clean up and containerize the rubbish (refuse, debris, waste materials, and removed materials and equipment) resulting from the Work at least once a day and more often if the rubbish interferes with the work of others or presents a hazard. Leave work areas broom clean, except where more stringent cleaning is specified, at the end of each day. Locate containerized rubbish on the Site where directed.

B. Remove rubbish from State property at least once a week and more often if the rubbish presents a hazard. Properly dispose of rubbish.

C. Burning of rubbish will not be permitted.

1.15 RELOCATION AND REMOVALS

A. Should a change in location of any construction facilities and temporary controls be necessary in order to progress the Work properly, remove and relocate such items as directed.

1. Electrical Work Contract: Frequently relocate/revise the temporary lighting as Contractors progress the Work of their contracts causing changes to the condition of the building (installation or relocation of walls, partitions, ceilings, equipment, etc.). Keep pace with the changes and maintain a minimum of 10 foot candles in each recomposed work area.

B. Remove the construction facilities and temporary controls when they are no longer required. Restore permanent facilities used for or connected to temporary facilities to their original condition or better.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 015000

SECTION 016500 – MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Specific requirements pertaining to materials and equipment specified elsewhere are additional to the provisions of this Section.

1.2 PRODUCT LABELS

A. When materials or equipment are specified to conform to ASTM, Federal or other reference specifications, the materials delivered to the site shall bear the manufacturer's printed labels stating that the materials meet the requirements of such referenced specifications.

1.3 TRANSPORTATION AND HANDLING

A. Deliver factory packaged materials and equipment in the manufacturer's original containers.

B. Transport and handle materials and equipment in such a manner as to prevent their damage.

C. Arrange for delivery of materials and equipment during the hours of the day established by the Director's Representative.

D. Have workers available to receive and unload materials and equipment delivered to the site. Do not deliver, or have delivered, any materials and equipment to the site unless such forces are available.

E. Facility personnel are not authorized to sign for receipt of Contractor's material or equipment.

1.4 STORAGE AND PROTECTION

A. Neatly pile, store, protect, and secure materials and equipment in locations where directed.

B. Protect materials and equipment subject to damage by temperature or other weather conditions.

C. Do not store volatile liquids in a State building.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 016500

SECTION 017329 – REMOVALS, CUTTING, AND PATCHING

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Rubbish Removal: Section 015000.

B. Asbestos Abatement: Section 028213.

C. Drawings and general provisions of the contract, including general and supplementary conditions and other Division 1 specification sections, apply to this section.

1. Refer to Division 1 for applicable local codes and regulations.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to remain the Property of the State.

1.3 PROJECT CONDITIONS

A. Existing Conditions: Do not disturb existing structures, construction, materials or equipment unless required by the Contract.

1. Do not cut, drill, or remove structural members such as joists, beams or columns supporting construction that is to remain unless expressly required by the Contract Documents.

B. Existing Paint: A lead survey was performed on existing surfaces for the presence of lead based paints. A list of the surfaces tested and the results of the survey are in Document 003126. Take precautions as required to prevent the spread of lead containing particles and dust.

1. Assume existing painted surfaces that have not been tested to contain lead based paint. Take precautions as required to prevent spread of lead containing particles and dust.

C. Items to Remain the Property of the State: The following items shall remain the property of the State and shall be stored at the site where directed:

1. HVAC Work Contract: VAV (Variable Air Volume) box.

1.4 DESCRIPTION OF WORK

A. This section includes the following:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.
4. Temporary Shoring of the existing structure.

1.5 QUALITY ASSURANCE

A. Demolition Firm Qualifications: An experienced firm specializing in demolition work similar in material and extent of this project.

B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Standards: Comply with ANSI A10.6, OSHA Regulations, and NFPA 241.

D. Predemolition Conference: Hold a conference at project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to selective demolition including the following:

1. Inspect and discuss condition of construction to be selectively demolished.
2. Finalize selective demolition schedule, and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
4. Review areas where existing construction is to remain and requires protection.

E. Structural Load Limitations of Existing Structure: Review load limitations of existing building structural framing system related to selective demolition including the following:

1. Original building Construction Drawings provided by Owner.
2. Condition of existing framing systems scheduled to remain prior to start of selective demolition and periodically during course of selective demolition.
3. Support requirements for proposed demolition equipment, including existing framing systems and temporary shoring and bracing requirements.

1.6 SUBMITTALS

A. Qualification Data: For demolition firm; Professional Engineer.

B. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Facility's on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.

3. Coordination for shutoff, capping, and continuation of utility services.
4. Use of stairs.
5. Locations of proposed dust- and noise-control temporary partitions and means of egress.
6. Coordination of Facility's continuing occupancy of portions of existing building and of Facility's partial occupancy of completed work.
7. Means of protection for items to remain and items in path of waste removal from building.
8. Verification by a New York State registered Professional Engineer that the existing building framing systems will safely support the demolition equipment proposed for use.

    a. Submit temporary shoring and bracing details if required for demolition equipment used in or adjacent to structure.
    b. Submit procedures used to protect adjacent properties from damage by demolition equipment.

9. Means and methods of temporary shoring stamped by a New York State registered Professional Engineer, including copies of calculations.

C. Predemolition photographs or video: Submit before work begins.

## 1.7 PROJECT CONDITIONS

A. Hazardous Materials: It is not expected that hazardous materials will be encountered in the work.

1. Hazardous materials will be removed under separate contract.
2. If materials suspected of containing hazardous materials are encountered, do not disturb. Immediately notify Director's Representative.
3. If materials suspected of containing hazardous materials are encountered, do not disturb. Immediately notify Director's Representative.

## 1.8 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:

1. Roofing membrane.

# PART 2 - PRODUCTS

## 2.1 MATERIALS

A. Match the appearance and performance of existing corresponding materials as closely as practicable, unless otherwise indicated.

2.2 MINIMUM REQUIREMENTS FOR SHORING MATERIALS

A. Shoring components and materials that are damaged shall not be used. If damaged during use, replace.

B. Shoring components and materials shall be reviewed by a competent person prior to use

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to cutting, drilling or removal, investigate both sides of the surface involved. Determine the exact location of structural members.

B. If unforeseen obstructions are encountered, take precautions necessary to prevent damage and obtain instructions from the Director's Representative before proceeding with the Work.

3.2 PREPARATION

A. Provide temporary shoring and other supports necessary to prevent settlement or other damage to existing construction which is to remain.

B. Prepare existing surfaces properly to receive and, where required, bond with the Work.

C. Site Access and Temporary Controls: Perform selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Division 1 Section 015000 "Temporary Facilities and Controls."

D. Temporary Facilities: Provide temporary barricades and other protection

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection during interval between selective demolition of existing construction on exterior surfaces and new construction to prevent water leakage and damage to structure and interior areas.
3. Provide secure barriers between existing construction scheduled to remain and selective demolition area to prevent unauthorized entry into occupied portions of building.
4. Protect walls, ceilings, floors, and other existing finish work to remain or are exposed during selective demolition operations.
5. Cover and protect furniture, furnishings, and equipment not removed.
6. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 1 Section 015000 "Temporary Facilities and Controls."

## 3.3 REMOVALS, CUTTING, AND ALTERING

A. In addition to the items indicated to be removed on the Drawings, remove existing construction superseded by the Work except items such as pipes, conduits, recessed boxes, and ducts which are built into existing construction that is to remain. Cut off and conceal such items at face of remaining construction. Provide cover plates on recessed boxes.

B. Remove and alter existing construction as required to install and connect the Work to adjacent construction in an approved manner.

C. Cut and alter existing materials as required to perform the Work. Limit cutting to the smallest amount necessary. Core drill round holes and saw cut other openings where possible.

D. Perform cutting, drilling, and removals in a manner which will prevent damage to construction which is to remain.

E. Perform removal of items to remain the property of the State with such care as necessary to prevent damage to these items.

## 3.4 PATCHING

A. Patch existing construction and finishes defaced, damaged, or left incomplete due to alterations and removals. Patching, except as otherwise indicated, shall be limited to the areas which have been cut or altered. Finish patched surfaces to match existing adjacent surfaces as closely as practicable.

B. Perform patching around items penetrating existing construction in a manner that will maintain the water and fire resistive capability of the existing construction.

C. Paint patched areas to match existing adjacent surfaces as closely as practicable using same type of paint. Painting, except as otherwise indicated, shall be limited to the areas which have been patched.

D. Where surfaces exposed by removals are to remain as exposed surfaces, paint such areas to match existing adjacent surfaces as closely as practicable using same type of paint.

## 3.5 CLEANING

A. After removals of ceiling systems and ceiling-related items, clean all remaining near ceiling items such as conduit, wiring, busways, piping, ductwork and all concrete surfaces.

## 3.6 REINSTALLATION

A. Where reinstallation of removed items is indicated, reinstall them to a condition equal to or better than their condition before removal.

## 3.7 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain. Protect against damage during selective demolition operations.

1. Comply with requirements for existing services/systems interruptions specified in Division 1 Section 011000 “Summary of the Work.”

B. Existing Service/System to be removed, relocated, or abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Director’s Representative will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off indicated utilities with utility companies.
3. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and maintain continuity of services/systems to other parts of building.

C. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing. Cut, remove and legally dispose of selected HVAC equipment, components, and materials as indicated, including, but not limited to removal of HVAC piping, heating units and trim and other HVAC items made obsolete by the new work.

## 3.8 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to extent required by construction and as indicated. Use methods required to complete work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on next lower level.
2. Neatly cut openings and holes plumb, square, and true dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Cut or drill from exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials. Promptly dispose off-site.

7. Remove structural framing members, and lower to ground by methods suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.

    a. Do not bury waste materials from selective demolition activities.
    b. Do not dispose of waste materials resulting from selective demolition activities into watercourses, storm drainage system, or sanitary sewer system.
    c. Do not discharge water containing suspended materials into watercourses, storm drainage system, sanitary sewers, or onto adjacent property.

10. When unanticipated structural, mechanical, or electrical elements are encountered during demolition, contact the Director's Representative and report nature of unanticipated condition. Do not progress demolition until direction is provided by the Director's Representative.
11. Cover or dampen dry materials and waste sufficient to prevent blown dust or debris.

B. Do not demolish building elements beyond what is indicated in drawings without Director's Representative approval.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Director's Representative, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

## 3.9 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw. Remove concrete between saw cuts.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain using power-driven saw. Remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished. Break up and remove.

D. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings."

E. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight.

## 3.10 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, recycled, salvaged, reinstalled, or otherwise indicated to remain the State's property, remove demolished materials from project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in manner that will prevent spillage on adjacent surfaces areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off property and legally dispose.

## 3.11 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

## 3.12 REPAIR OF ELEMENTS DAMAGED DURING DEMOLITION

A. Any element damaged during the demolition process is to be repaired to its original condition.

B. Submit a repair procedure for review. Repair procedures are to include analysis stamped and sealed by a professional engineer licensed in the State of New York.

END OF SECTION 017329

SECTION 017716 – CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Other provisions pertaining to this Section are included in Article 9 of the General Conditions.

1.2 CONTRACT CLOSEOUT INSPECTIONS

A. The following 3 inspections will be made in addition to the normal inspections to ensure that all Contract requirements are met and that the Work is complete and acceptable. The purpose of each of these inspections is to furnish the Contractor a written list of Contract exceptions, omissions, and incompletions so that the Work can be progressed to timely completion in accordance with the Contract Documents.

1. Detailed Inspection: The "Detailed Inspection" will be made when the Work is substantially complete. A copy of the detailed inspection list will be furnished to the Contractor. When this inspection progresses over any length of time, copies of the list will be furnished as the inspection progresses so that the Contractor may proceed with the required Work without delay.
2. Final Inspection: The Contractor will be advised by letter of the date and time of final inspection. A copy of the final inspection list containing all incomplete or unsatisfactory items and the time allowed to complete the Work will be furnished to the Contractor.
3. Joint Inspection for Physical Completion: The joint inspection for physical completion may be made to verify completion of the exception items listed on the final inspection list so that the physical completion date (defined in the General Conditions) may be established.

1.3 FINAL CLEANING

A. Perform final cleaning prior to joint inspection for physical completion. Leave the premises in a neat, unobstructed condition, the work areas broom clean (except where more thorough cleaning is specified), and everything in perfect repair and adjustment.

B. Clean site; sweep paved areas, rake clean landscaped surfaces.

C. Remove tools, equipment, waste and surplus materials, rubbish, and construction facilities from the premises as soon as possible upon completion of the Work.

1.4 PROJECT RECORD DOCUMENTS

A. Maintain on site, 2 sets of the following record documents; record actual revisions to the Work.

1. Contract Drawings.

2. Project Manual.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.

B. Store record documents separate from documents used for construction.

C. Record information concurrent with construction progress.

D. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including.

1. Measured depths of foundations in relation to finish (first) (main) floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension and detail.
5. Details not on original Contract Drawings.

E. Upon completion of the work, create electronic versions of the project record documents. Black and white documents are to be scanned into TIFF format using CCIT Group 4 compression. Documents with color, which include black line documents with color notations, are to be scanned into TIFF format using a minimum of 8 colors and "packbits" compression test.

1. The scanned images are to be put on a USB flash drive using NTFS/NTFS5 format. Name the electronic files with the same name as the drawing. Create a folder on the USB flash drive for each trade and one for Shop Drawings.
2. Label the USB flash drive with the project number, name, and title as it appears on the project manual cover. If there is more than one USB flash drive include notation to that effect on the label; i.e., 1 of 3, 2 of 3, 3 of 3. The project record documents, and USB flash drive(s) are to be turned over to the Director's Representative.

F. Applications for progress payments will not be approved if the record documents are not kept current. Application for final payment will not be approved until the project record documents are delivered to the Director's Representative.

## 1.5 OPERATION AND MAINTENANCE DATA

A. Prepare 2 sets comprised of 8-1/2 x 11 inch text pages bound in capacity expansion binders with durable plastic covers identified with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required. Prepare a printed Table of Contents for each volume, with each product or system description identified. Internally subdivide the binder contents with permanent page dividers, logically organized as described below, with tab titles clearly printed under reinforced laminated plastic tabs:

Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, subcontractors, and major equipment suppliers.

Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of subcontractors and suppliers. Identify the following:

1. Significant design criteria.
2. List of equipment.
3. Parts list for each component.
4. Operating instructions.
5. Maintenance instructions for equipment and systems.
6. Maintenance instructions for finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.

Part 3: Project documents and certificates, including the following:

1. Shop drawings and product data.
2. Air and water balance reports.
3. Certificates.
4. Photocopies of warranties.

B. Submit one copy of completed volumes in final form 15 days prior to final inspection. This copy will be returned after final inspection, with the Director's comments. Revise content of documents as required prior to final submittal.

C. Submit 2 volumes prior to final Application for Payment.

1.6 WARRANTIES

A. Furnish warranty certification and copies of warranties that extend beyond the one year period required by the General Conditions. Warranties submitted without warranty certification will not be accepted.

1. Warranty Certification: Written certification from the warrantor that invoices for installation, service, supplies, and warranty fees have been paid in full to persons or firms due payment, and that the warranty is in effect and non-retractable due to any of the specified conditions.

B. Prepare printed Table of Contents and assemble warranty certifications and warranty copies in a binder with a durable plastic cover.

C. Deliver the binder to the Director's Representative prior to final Application for Payment.

D. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, indicating date of acceptance as start of warranty period.

E. Applications for final payment will not be approved until the warranty certification and warranty documents are delivered to the Director's Representative.

1.7 SPARE PARTS AND MAINTENANCE MATERIALS

A. Label and deliver spare parts, maintenance items, and extra materials to the Site. Place in locations as directed.

1. Include “NOT FOR WARRANTY REPAIRS” on the labels.
2. Obtain receipt prior to final payment.

B. Do not use the spare parts and maintenance materials required by the Contract Documents to remedy defects during the one-year period described in Paragraph 9.8 of the General Conditions except when approved otherwise by authorized Facility Representative. In such cases, replace items used.

C. Furnish the names, business addresses, and telephone numbers of fully equipped authorized service organizations to the Director’s Representative.

D. Applications for final payment will not be approved until these items are delivered to the Director’s Representative.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 017716

SECTION 017900.01 - VIDEO TRAINING PROGRAMS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section includes administrative and procedural requirements for instructing the Owner's and operations and maintenance personnel, including the following:

1. Demonstration of operation of systems, subsystems, and equipment. Contractor shall develop training sessions for systems, subsystems, and equipment.
2. Training in operation and maintenance of systems, subsystems, and equipment.

B. Demonstration and training requirements are described in this section, Section 019100, and in the technical sections of Divisions 22, 23, and 26. The Contractor shall comply with the requirements for demonstration and training data described in all specification sections.

1.2 RELATED WORK

A. Specific commissioning requirements are given in the following sections of these specifications. All the following sections apply to the Work of this section:

1. Section 017716 – Contract Closeout.
2. Section 019113 – Commissioning.
3. Section 210800 - Commissioning of Fire Suppression.
4. Section 220800 - Commissioning of Plumbing.
5. Section 230800 - Commissioning of HVAC.
6. Section 260800 - Commissioning of Electrical.

1.3 SUBMITTALS

A. Instruction Program: No later than two (2) months following acceptance of equipment and system submittals, the responsible contractor shall submit written training plans to the CxA and State for review and approval per Section 019100 and this section.

B. Documentation: After each training session, submit the following:

1. Attendance Roster: Submit list of participants and length of instruction time.
2. Evaluations: For each participant and for each training session, submit results and documentation of performance-based test and student evaluations of training.

1.4 COORDINATION

A. Coordinate instruction schedule with Director’s Representative.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training sessions with content of approved operation and maintenance manuals.

1.5 QUALITY ASSURANCE

A. Facilitator Qualifications: Training shall be facilitated by a firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.

B. Instructor Qualifications: Instructors shall be factory-authorized representatives experienced in operation and maintenance procedures and training.

C. Pre-instruction Conference: Conduct conference at project site. Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction, including classroom training and field training.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, and audio/visual equipment.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Develop a comprehensive instruction program. Include individual training sessions for each system and equipment not part of a system as required by technical specification sections and the Cx Plan.

B. Training Sessions: Coordinate training with the CxA. Develop a learning objective and teaching outline for each system, subsystem, and product specified in Section 019100 and Divisions 22, 23, and 26. Include a description of specific skills and knowledge that participants are expected to learn.

C. The following list of topics should be applied to each training plan for each equipment or system being presented. Not all will apply, but each major category should be addressed in the training plan with a brief description of how it pertains to the particular training sessions.

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:

a. System, subsystem, and equipment descriptions.
b. Performance requirements.
c. Operating standards.
d. Regulatory requirements.
e. Equipment function.
f. Operating characteristics.
g. Limiting conditions.
h. Performance curves.

2. Documentation: Review the following items in detail:
    a. Operations manuals.
    b. Maintenance manuals.
    c. Project Record Documents.
    d. Identification systems.
    e. Warranties and bonds.
    f. Maintenance service agreements and similar continuing commitments.

3. Emergencies: Include the following:

    a. Instructions on meaning of warnings, trouble indications, and error messages.
    b. Instructions on stopping.
    c. Shutdown instructions for each type of emergency.
    d. Operating instructions for conditions outside normal operating limits.
    e. Sequences for electric or electronic systems.
    f. Special operating instructions and procedures.

4. Operations: Include the following:

    a. Startup procedures.
    b. Equipment or system break-in procedures.
    c. Routine and normal operating instructions.
    d. Regulation and control procedures.
    e. Control sequences.
    f. Safety procedures, including lockout/tagout requirements.
    g. Instructions on stopping.
    h. Normal shutdown and restart instructions.
    i. Operating procedures for system, subsystem, or equipment failure.
    j. Seasonal and weekend operating instructions.
    k. Required sequences for electric or electronic systems.
    l. Special operating instructions and procedures.

5. Adjustments: Include the following:

    a. Alignments.
    b. Checking adjustments.
    c. Noise and vibration adjustments.
    d. Economy and efficiency adjustments.

6. Troubleshooting: Include the following:

    a. Diagnostic instructions.
    b. Test and inspection procedures.

7. Maintenance, Care and Cleaning: Include the following:

    a. Inspection procedures.
    b. Types of cleaning agents to be used and methods of cleaning.
    c. List of recommended cleaning agents and methods of cleaning and list of agents and cleaning methods detrimental to product.

d. Procedures for routine cleaning.
e. Procedures for preventive/predictive maintenance.
f. Procedures for routine maintenance.
g. Instruction on use of special tools.

8. Repairs: Include the following:

a. Diagnosis instructions.
b. Repair instructions.
c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
d. Instructions for identifying parts and components.
e. Review of spare parts needed for operation and maintenance.

D. Training Shifts: Training shall be provided for one shift, unless otherwise noted. Training shall be accomplished during normal business hours.

E. Training Duration: Duration of training and demonstration is addressed in Section 019100. Training and demonstration duration for specific items within a training session may be adjusted with Facility's approval to meet the overall goals of the training session.

## PART 3 - EXECUTION

### 3.1 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training sessions. Assemble training sessions into a combined training manual.

B. Set up instructional equipment at instruction location.

### 3.2 INSTRUCTION

A. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide instruction on actions necessary to prepare for and execute seasonal changeover.

1. Schedule training through the Facility with at least 30 days notice. This requirement for notice takes precedence over other advance notice requirements in the specification.

B. Quality and Contents of Training Sessions: Each training session shall include the following.

1. Training plan for each class. Training plan shall contain:

a. Class objectives (what the student will learn).
b. Script of lecture and demonstrations.
c. Duration of each instruction period.
d. Participant attendance roster.
e. Participant evaluation survey form.

2. Names of instructors, name of company where employed, their credentials and affiliation with product if applicable and their qualifications as instructor.
3. Name of company who will videotape the classes. Include video script coordination with instructor's syllabus.
4. Training session information shall be submitted to CxA for approval.

C. Evaluation: At conclusion of each training session, assess and document training.

1. Assess and document each participant's comprehension of session by use of an oral performance-based test.
2. Obtain each participant's evaluation of the training.

D. Cleanup: Collect used and leftover educational materials. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

E. Record of Training. Submit the attendance roster as part of the completed training plan upon successful completion of the training session.

END OF SECTION

SECTION 019113 - GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies the Contractor's responsibilities in the commissioning process. Commissioning requires the participation of the Contractor to ensure that all systems are operating in a manner consistent with the Contract Documents.

B. The commissioning process integrates the traditionally separate functions of system documentation, equipment startup, performance testing and training. Commissioning during the construction phase is intended to achieve the following specific objectives in accordance with the Contract Documents:

1. Verify and document that applicable equipment and systems are installed according to the manufacturer's recommendations, contract requirements, and industry standards and that they receive adequate operational checkout by installing contractors.
2. Verify and document proper performance of equipment and systems.
3. Verify and document that O&M documentation is complete.
4. Verify and document that the Facility operating personnel are properly trained.

C. The systems and equipment to be commissioned are listed in this Section. The Contractor's general commissioning requirements and coordination are detailed in this Section. Specific requirements for commissioning of each system or piece of equipment are detailed in the specification Section for the individual systems or pieces of equipment. A detailed description of the overall commissioning process is included in the appendix.

D. The commissioning process does not reduce the responsibility of the Contractor to provide finished and fully functional systems and equipment.

1.2 SYSTEMS TO BE COMMISSIONED

A. The following systems will be commissioned in this project. Specific requirements for the commissioning of each system are included in the related specification Section.

1. HVAC Work Contract:

a. HVAC Systems.
b. Building Controls.

2. Plumbing Work Contract:

a. Domestic Hot Water System.

3. Electrical Work Contract:

a. Lighting Controls.

B. Example Commissioning Documents: Example Pre-Functional Checklists and Functional Test Procedures are provided following the specification Sections of equipment and systems that are scheduled to be commissioned. These documents are included to provide the Contractor examples of the type of documentation that will be required as part of the commissioning process. Equipment and system specific Pre-Functional Checklists and Functional Test procedures will be developed by the Commissioning Authority based on approved submittals, and then will be provided to the Contractors.

1.3 DEFINITIONS

A. Acceptance Phase: Phase of construction after startup and initial checkout when functional performance tests, O&M documentation review and training occurs.

B. Approval: Acceptance that a piece of equipment or system has been properly installed and is functioning in the tested modes in accordance with the Contract Documents.

C. Commissioning authority (CA): An independent agent responsible for the direction and coordination of the commissioning activities. The CA responsible to the Director's Representative.

D. Commissioning Plan: An overall plan that provides the structure, schedule and coordination planning for the commissioning process.

E. Commissioning Team: The members of the commissioning team consist of the Commissioning Authority, the Director's Representative, the Contractor, the architect and design engineers. The owner and the building or plant operator/engineer also may be members of the commissioning team.

F. Deferred Functional Tests: Functional tests that are performed after substantial completion, due to partial occupancy, seasonal requirements, design or other site conditions that prevent the test from being performed prior to substantial completion.

G. Deficiency: A condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents.

H. Factory Testing: Testing of equipment on-site or at the factory by factory personnel.

I. Functional Performance Test (FT): Test of the dynamic function and operation of equipment and systems using manual (direct observation) or monitoring methods. Functional testing is the dynamic testing of systems (rather than just components) under full operation. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc. The CA develops the functional test procedures in sequential written form. The CA coordinates, oversees and documents the actual testing. The Contractor performs the functional tests. FTs are performed after prefunctional checklists and startup are complete.

J. Phased Commissioning: Commissioning that is completed in phases (by floors, for example) due to the size of the structure or other scheduling issues, in order to minimize the total construction time. Commissioning shall be provided for each phase according to the schedule for that phase. Some repetition and/or remobilization may be required.

K. Prefunctional Checklist (PC): A list of items to inspect and component tests to conduct to verify proper installation of equipment prior to initiating functional testing.

L. Startup: The initial starting or activating of dynamic equipment, including executing prefunctional checklists.

## 1.4 COORDINATION

A. The CA is hired by, and works for, the Director. The CA directs and coordinates the commissioning activities. All members of the commissioning team shall work together to fulfill their contractual responsibilities and meet the objectives of the Contract Documents.

B. The CA will work with the Contractor according to established protocols to schedule the commissioning activities. The Contractor shall integrate all commissioning activities into the approved progress schedule. All parties will address scheduling problems and make necessary notifications and changes in a timely manner in order to expedite the commissioning process and maintain the approved progress schedule.

## 1.5 COMMISSIONING PROCESS

A. Commissioning Plan. The commissioning plan provides guidance in the execution of the commissioning process. Following the initial commissioning scoping meeting the CA will update the plan which is then considered the "final" plan, although it may be revised as the project progresses.

B. Commissioning Process. The following narrative provides a brief overview of the typical commissioning tasks during construction and the general order in which they occur. A more detailed description of the commissioning process can be found in the Appendix.

1. Commissioning during construction begins with a scoping meeting conducted by the CA where the commissioning process is reviewed with the Commissioning Team.
2. Additional meetings will be required throughout construction, scheduled by the Director's Representative, to plan, scope, coordinate, and schedule future activities and to resolve problems. When possible, commissioning meetings will be scheduled immediately following construction meetings.
3. Equipment documentation is submitted to the CA during the submittal process, including detailed start-up procedures.
4. The CA works with the Contractor to develop startup activity lists and startup documentation. The CA provides prefunctional checklists to be completed by the Contractor during the startup process.
5. In general, the checkout and performance verification proceeds from simple to complex; from component level to equipment to systems and intersystem levels. In each case

prefunctional checklists are completed, submitted, and approved before functional testing begins.

6. The Contractor executes and documents the prefunctional checklists, and provides notification to the Director's Representative and the CA. The Contractor performs startup and initial checkout. The CA documents that the checklists and startup were completed according to the approved plans.
7. The CA develops specific equipment and system functional performance test procedures. The Contractor reviews the procedures and submits suggestions or comments. Procedures are finalized by the CA.
8. The procedures are executed by the Contractor, under the direction of the CA.
9. Items of non-compliance in material, workmanship, or setup are corrected and retested at the Contractor's expense. The Contractor is responsible for providing all resources, manpower, and materials necessary to rectify deficiencies as per requirements of the approved schedule.
10. The O&M documentation prepared by the Contractor is reviewed for completeness by the CA.
11. Commissioning is completed before Substantial Completion.
12. The CA reviews, pre-approves and coordinates the training provided by the Contractor and verifies that is was completed.
13. Deferred testing is conducted, as specified or required.

## 1.6 CONTRACTOR'S RESPONSIBILITIES

A. The Contractor's commissioning responsibilities are as follows (all references apply to commissioned systems and equipment only):

1. Construction and Acceptance Phase:

   a. Attend the commissioning scoping meeting and other necessary meetings scheduled by the Director's Representative to facilitate the commissioning process.
   b. Facilitate the coordination of the commissioning work by the CA, and with the CA ensure that commissioning activities are being scheduled into the approved progress schedule.
   c. Provide detailed manufacturer installation and start-up, operating, troubleshooting and maintenance procedures, factory test reports, and full warranty information, including all responsibilities of the Director to keep the warranty in force. The installation, start-up and checkout materials that are actually shipped with the equipment and the actual field checkout sheet forms to be used by the factory or field technicians shall be submitted to the CA. The CA may request further documentation necessary for the commissioning process.
   d. In each purchase order or subcontract written, include requirements for submittal data, O&M data, commissioning tasks and training.
   e. Ensure that all subcontractors execute their commissioning responsibilities according to the Contract Documents and approved progress schedule.
   f. Assist in the process of writing detailed test procedures by clarifying the operation and control of commissioned equipment.
   g. Review test procedures to ensure feasibility, safety and equipment protection and provide necessary written alarm limits to be used during the tests.

h. Develop a full start-up and testing plan using manufacturer's start-up procedures and the prefunctional checklists from the CA for all commissioned equipment. Submit to the CA for review and approval prior to startup.
i. During the startup and initial checkout process, execute all portions of the prefunctional checklists for all commissioned systems and equipment. Verify that system installations include all ports, gages, thermometers, access doors, valves, etc., required for specified functional performance testing.
j. Provide all special tools and instruments (only available from vendor, specific to a piece of equipment) required for testing equipment.
k. Perform and clearly document all completed startup and system operational checkout procedures, providing a copy to the CA.
l. Address incomplete Work before functional performance testing.
m. Provide skilled technicians to execute startup of equipment and to execute the functional performance tests. Ensure that they are available and present during the agreed upon schedules and for sufficient duration to complete the necessary tests, adjustments and problem-solving.
n. Provide skilled technicians to perform functional performance testing under the direction of the CA for specified equipment. Provide Manufacturer's Representative as required and as specified in the Specification. Assist the CA in interpreting the monitoring data, as necessary.
o. Correct deficiencies (differences between specified and observed performance) as directed by the Director's Representative.
p. Prepare O&M manuals according to the Contract Documents, including clarifying and updating the original sequences of operation to as-built conditions. Provide a copy of the O&M manuals and submittals of commissioned equipment to the CA for review and approval.
q. Provide training as specified.
r. Coordinate with equipment manufacturers to determine specific requirements to maintain the validity of the warranty.

2. Warranty Period:

a. Execute seasonal or deferred functional performance testing in accordance with the specifications
b. Correct deficiencies and make necessary adjustments to O&M manuals and as-built drawings for applicable issues identified in any seasonal testing.

## PART 2 - PRODUCTS

### 2.1 TEST EQUIPMENT

A. All standard testing equipment required to perform startup and initial checkout and required functional performance testing shall be provided by the Contractor.

B. Specified special equipment, tools and instruments (only available from vendor, specific to a piece of equipment) required for testing equipment shall be provided by the Contractor and turned over to the facility at the completion of the Work.

C. Datalogging equipment and software required to test equipment will be provided by the Contractor but shall not become the property of the Director's Representative.

D. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the Specifications. All equipment shall be calibrated according to the manufacturer's recommended intervals. Calibration tags shall be affixed or certificates readily available.

## PART 3 - EXECUTION

### 3.1 MEETINGS

A. Scoping Meeting. Prior to the commencement of construction, the CA will schedule, plan and conduct a commissioning scoping meeting with the Commissioning Team.

B. Miscellaneous Meetings. Other meetings will be planned and conducted by the CA as construction progresses. These meetings will cover coordination, deficiency resolution and planning issues with the Contractor, appropriate sub-contractors and suppliers, the Owner's Representative, and the Director's Representative.

### 3.2 START-UP, PREFUNCTIONAL CHECKLISTS, AND INITIAL CHECKOUT

A. Prefunctional checklists and initial checkout shall ensure that the equipment and systems are hooked up and operational. Each piece of equipment receives full prefunctional checkout. No sampling strategies are used. The prefunctional testing for a given system must be successfully completed prior to formal functional performance testing of systems or equipment.

B. Start-up and Initial Checkout Plan. The CA shall assist the commissioning team members responsible for startup of any equipment in developing detailed start-up plans for all equipment. The primary role of the CA in this process is to ensure that there is written documentation that each of the manufacturer's recommended procedures have been completed.

C. Execution of Prefunctional Checklists and Startup.

1. Four weeks prior to startup, the Contractor shall schedule startup and checkout with the Director's Representative.
2. The Contractor shall execute startup and provide the CA with a signed and dated copy of the completed start-up and prefunctional tests and checklists.

### 3.3 FUNCTIONAL PERFORMANCE TESTING

A. Development of Test Procedures. Using the requirements in the specifications, the CA shall develop specific test procedures and forms to verify and document proper operation of each piece of equipment and system. The Contractor shall provide assistance to the CA in developing the procedures. Prior to testing, the CA shall provide a copy of the test procedures to the Contractor who shall review the tests for feasibility, safety, equipment and warranty protection.

B. Functional performance testing shall document that each system is operating in accordance with the Contract Documents. During the testing process, areas of deficient performance shall be identified. Deficiencies shall be corrected by the Contractor and functional testing shall be re-scheduled. The Contractor shall be responsible for all costs associated with re-testing for functional performance.

C. Each system shall be operated through all modes of operation. Proper responses to such modes and conditions as power failure, freeze condition, low oil pressure, no flow, equipment failure, etc. shall also be tested.

D. Test Methods. Each function and test shall be performed under conditions that simulate actual conditions as closely as possible. The Contractor shall execute the test and shall provide all necessary materials, system modifications, etc. to produce the necessary flows, pressures, temperatures, etc. necessary to execute the test according to the specified conditions. At the completion of the test, the Contractor shall return all building equipment and systems affected by these temporary modifications to their pre-test condition.

## 3.4 OPERATION AND MAINTENANCE MANUALS

A. Standard O&M Manuals. The specific content and format requirements for the standard O&M manuals are detailed in Section 017716.

B. The Contractor shall compile and prepare commissioning documentation for all equipment and systems and include this information in the O&M manuals.

## 3.5 TRAINING

A. The Contractor shall be responsible for coordinating, scheduling, and documenting that all required training has been completed successfully.

B. The Contractor shall have the following training responsibilities:

1. Provide a training plan two weeks before the planned training.
2. Provide comprehensive orientation and training in the understanding of the systems and the operation and maintenance of each piece of equipment.
3. Training shall normally start with classroom sessions followed by hands-on training on each piece of equipment.
4. The training sessions shall follow the outline in the Table of Contents of the operation and maintenance manual and illustrate whenever possible the use of the O&M manuals for reference.
5. Training shall include:

    a. Use of the printed installation, operation and maintenance instruction material included in the O&M manuals.
    b. A review of the written O&M instructions emphasizing safe and proper operating requirements, preventative maintenance, special tools needed and spare parts inventory suggestions. The training shall include start-up, operation in all modes possible, shut-down, and any emergency procedures.

c. Discussion of relevant health and safety issues and concerns.
d. Discussion of warranties and guarantees.
e. Common troubleshooting problems and solutions.
f. Explanatory information included in the O&M manuals and the location of all plans and manuals in the facility.
g. Discussion of any peculiarities of equipment installation or operation.

## 3.6 DEFERRED TESTING

A. Unforeseen Deferred Tests. If any check or test cannot be completed due to project conditions, required occupancy condition or other deficiency, execution of checklists and functional testing may be delayed upon approval of the Director's Representative. These tests will be conducted in the same manner as the seasonal tests as soon as possible.

B. Seasonal Testing. Seasonal testing (tests delayed until weather conditions are closer to the system's design conditions) shall be completed as part of this contract. Make any final adjustments to the O&M manuals and as-builts resulting from information gained during testing.

END OF SECTION 019113

SECTION 210517 - SLEEVES AND SLEEVE SEALS FOR FIRE-SUPPRESSION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Sleeves.
2. Stack-sleeve fittings.
3. Sleeve-seal systems.
4. Sleeve-seal fittings.
5. Grout.
6. Silicone sealants.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the general Conditions.

E. Manufacturer’s installation instructions shall be provided along with product data.

F. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals)

G. Product Data: For each type of product.

H. Submit an Environmental Product Declaration (EPD) from the manufacturer for steel pipe sleeves within this specification section, if available. A statement of the contractor’s good faith effort to obtain the EPD shall be provided if not available.

1. Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 *Environmental labels and declarations*, ISO 14044

*Environmental management – Life cycle assessment*, and ISO 21930 *Core rules for environmental product declarations of construction products and services*.

I. Field quality-control reports.

## PART 2 - PRODUCTS

### 2.1 SLEEVES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Advance Products & Systems, Inc.
2. CALPICO, Inc.
3. GPT; an EnPro Industries company.
4. Approved equivalent.

B. Cast-Iron Pipe Sleeves: Cast or fabricated of cast or ductile iron and equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop.

C. Steel Pipe Sleeves: ASTM A 53, Type E, Grade B, Schedule 40, galvanized, with plain ends and integral welded waterstop collar.

D. Galvanized-Steel Sheet Sleeves: 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint.

### 2.2 STACK-SLEEVE FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Jay R. Smith Mfg Co; a division of Morris Group International.
2. Zurn Industries, LLC.
3. Approved equivalent.

B. Description: Manufactured, galvanized cast-iron sleeve with integral clamping flange for use in waterproof floors and roofs. Include clamping ring, bolts, and nuts for membrane flashing.

### 2.3 SLEEVE-SEAL SYSTEMS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Advance Products & Systems, Inc.
2. CALPICO, Inc.
3. Metraflex Company (The).
4. Approved equivalent.

B. Description:

1. Modular sealing-element unit, designed for field assembly, for filling annular space between piping and sleeve.
2. Designed to form a hydrostatic seal of 20 psig minimum.
3. Sealing Elements: EPDM-rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size.
4. Pressure Plates: Carbon steel.
5. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, ASTM B 633 of length required to secure pressure plates to sealing elements.

## 2.4 SLEEVE-SEAL FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Advance Products & Systems, Inc.
2. CALPICO, Inc.
3. Metraflex Company (The).
4. Approved equivalent.

B. Description: Manufactured plastic, sleeve-type, waterstop assembly made for imbedding in concrete slab or wall.

C. Plastic or rubber waterstop collar with center opening to match piping OD.

## 2.5 GROUT

A. Description: Nonshrink, for interior and exterior sealing openings in non-fire-rated walls or floors.

B. Standard: ASTM C 1107, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

## 2.6 SILICONE SEALANTS

A. Silicone, S, NS, 25, NT: Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant, ASTM C 920, Type S, Grade NS, Class 25, Use NT.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. GE Construction Sealants; Momentive Performance Materials Inc.
b. Permathane®/Acryl-R®; ITW Polymers Sealants North America.
c. The Dow Chemical Company.
d. Approved equivalent.

B. Silicone, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade P, Class 25, Uses T and NT. Grade P Pourable (self-leveling) formulation is for opening in floors and other horizontal surfaces that are not fire rated.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. May National Associates, Inc.; a subsidiary of Sika Corporation.
b. W.R. Meadows, Inc.
c. Tremco CPG Inc.
d. Approved equivalent.

C. Silicone Foam: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Smooth-On.
b. Stockwell Elastromerics
c. Approved equivalent.

## PART 3 - EXECUTION

### 3.1 SLEEVE INSTALLATION

A. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.

B. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide minimum 1-inch annular clear space between piping and

C. Install sleeves in concrete floors, concrete roof slabs, and concrete walls as new slabs and walls are constructed. **Sleeves not required for core-drilled holes.**

1. Cut sleeves to length for mounting flush with both surfaces.

a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level.

2. Using grout or silicone sealant, seal space outside of sleeves in slabs and walls without sleeve-seal system.

D. 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 appropriate for size, depth, and location of joint.

E. 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 specified in Section 078413 "Penetration Firestopping."

## 3.2 STACK-SLEEVE-FITTING INSTALLATION

A. Install stack-sleeve fittings in new slabs as slabs are constructed.

1. Install fittings that are large enough to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation.
2. Install section of cast-iron soil pipe to extend sleeve to 2 inches above finished floor level.
3. Extend cast-iron sleeve fittings below floor slab as required to secure clamping ring if ring is specified.
4. Use silicone sealant to seal around the outside of stack-sleeve fittings.

B. Fire-Resistance-Rated Penetrations, Horizontal Assembly Penetrations, and Smoke Barrier Penetrations: Maintain indicated fire or smoke rating of floors at pipe penetrations. Seal pipe penetrations with fire- or smoke-stop materials. Comply with requirements for firestopping specified in Section 078413 "Penetration Firestopping."

## 3.3 SLEEVE-SEAL-SYSTEM INSTALLATION

A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at service piping entries into building.

B. Select type, size, and number of sealing elements required for piping material and size and for sleeve ID or hole size. Position piping in center of sleeve. Center piping in penetration, assemble sleeve-seal system components, and install in annular space between piping and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make a watertight seal.

## 3.4 SLEEVE-SEAL-FITTING INSTALLATION

A. Install sleeve-seal fittings in new walls and slabs as they are constructed.

B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.

C. Secure nailing flanges to concrete forms.

D. Use grout or silicone sealant, to seal the space around outside of sleeve-seal fittings.

## 3.5 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Leak Test: After allowing for a full cure, test sleeves and sleeve seals for leaks. Repair leaks and retest until no leaks exist.

B. Sleeves and sleeve seals will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

## 3.6 SLEEVE AND SLEEVE-SEAL SCHEDULE

A. Use sleeves and sleeve seals for the following piping-penetration applications:

1. Concrete Slabs-on-Grade:

a. Piping NPS 6 and Larger: Galvanized Steel pipe sleeves with sleeve-seal system

1) Select sleeve size to allow for 1-inch annular clear space between piping and sleeve for installing sleeve-seal system.

2. Interior Partitions:

a. Piping Smaller Than NPS 6: Steel pipe sleeves.

END OF SECTION 210517

SECTION 210518 - ESCUTCHEONS FOR FIRE-SUPPRESSION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this section.

1.2 SUMMARY

A. Section Includes:

1. Escutcheons.
2. Floor plates.

1.3 DEFINITIONS

A. Existing Piping to Remain: Existing piping that is not to be removed and that is not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the general Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 GENERAL

A. Manufacturers:

1. BrassCraft Manufacturing Co.; A Masco Company.
2. Dearborn Brass.
3. Jones Stephens Corp.
4. Keeney Manufacturing Company.
5. Mid-America Fittings, Inc.

6. ProFlo; a Ferguson Enterprises, Inc. Brand.
7. Approved equivalent.

## 2.2 ESCUTCHEONS

A. One-Piece, Steel Type: With polished, chrome-plated finish and setscrew fastener.

## 2.3 FLOOR PLATES

A. Split Floor Plates: Steel with concealed hinge.

# PART 3 - EXECUTION

## 3.1 INSTALLATION

A. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.

B. Install escutcheons with ID to closely fit around pipe, tube, and insulation of piping and with OD that completely covers opening.

1. Escutcheons for New Piping:

a. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep pattern.
b. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece steel with polished, chrome-plated finish.
c. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece steel with polished, chrome-plated finish.
d. Bare Piping in Unfinished Service Spaces: One-piece steel with polished, chrome-plated finish.
e. Bare Piping in Unfinished Service Spaces: One-piece cast brass with polished, chrome-plated finish.
f. Bare Piping in Equipment Rooms: One-piece steel with polished, chrome-plated finish.

C. Install floor plates for piping penetrations of equipment-room floors.

D. Install floor plates with ID to closely fit around pipe, tube, and insulation of piping and with OD that completely covers opening.

1. New Piping: One-piece, floor plate.

## 3.2 FIELD QUALITY CONTROL

A. Using new materials, replace broken and damaged escutcheons and floor plates.

END OF SECTION 210518

SECTION 210523 - GENERAL-DUTY VALVES FOR WATER-BASED FIRE-SUPPRESSION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Two-piece ball valves with indicators.
2. Iron butterfly valves with indicators.
3. Check valves.
4. Iron OS&Y gate valves.
5. NRS gate valves.
6. Trim and drain valves.

1.3 DEFINITIONS

A. OS&Y: Outside screw and yoke.

B. SBR: Styrene-butadiene rubber.

C. NRS: Non-rising stem.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of valve.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, and weld ends.
3. Set valves open to minimize exposure of functional surfaces.

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.

C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use operating handles or stems as lifting or rigging points.

D. Protect flanges and specialties from moisture and dirt.

## PART 2 - PRODUCTS

### 2.1 SOURCE LIMITATIONS

A. Obtain each type of valve from single manufacturer.

### 2.2 PERFORMANCE REQUIREMENTS

A. UL Listed: Valves shall be listed in UL's "Online Certifications Directory" under the headings listed below and shall bear UL mark:

1. Fire Main Equipment: HAMV - Main Level

a. Ball Valves, System Control: HLUG - Level 3.
b. Butterfly Valves: HLXS - Level 3.
c. Check Valves: HMER - Level 3.
d. Gate Valves: HMRZ - Level 3.

2. Sprinkler System & Water Spray System Devices: VDGT - Main Level

a. Valves, Trim and Drain: VQGU - Level 1.

B. FM Global Approved: Valves shall be listed in its "Approval Guide," under the headings listed below:

1. Automated Sprinkler Systems:

a. Valves.

1) Gate valves.
2) Check valves
3) Miscellaneous valves.

C. ASME Compliance:

1. ASME B1.20.1 for threads for threaded-end valves.
2. ASME B16.1 for flanges on iron valves.
3. ASME B31.9 for building services piping valves.

D. AWWA Compliance: Comply with AWWA C606 for grooved-end connections.

E. NFPA Compliance for valves:

1. Comply with NFPA 13.

F. Valve Pressure Ratings: Not less than the minimum pressure rating indicated or higher, as required by system pressures.

G. Valve Sizes: Same as upstream piping unless otherwise indicated.

H. Valve Actuator Types:

1. Worm-gear actuator with handwheel for quarter-turn valves, except for trim and drain valves.
2. Handwheel: For other than quarter-turn trim and drain valves.
3. Handlever: For quarter-turn trim and drain valves NPS 2 and smaller.

## 2.3 TWO-PIECE BALL VALVES WITH INDICATORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Ames Fire & Waterworks; A WATTS Brand.
2. NIBCO INC.
3. Victaulic Company.
4. Approved equivalent.

B. Description:

1. UL 1091, except with ball instead of disc and FM Global approved for indicating valves (butterfly or ball type), Class Number 1112.
2. Minimum Pressure Rating: 175 psig.
3. Body Design: Two piece.
4. Body Material: Forged brass or bronze.
5. Port Size: Full or standard.
6. Seats: PTFE.
7. Stem: Bronze or stainless steel.
8. Ball: Chrome-plated brass.
9. Actuator: Worm gear
10. Supervisory Switch: Internal or external.
11. End Connections for Valves NPS 1 through NPS 2: Threaded ends.
12. End Connections for Valves NPS 2-1/2: Grooved ends.

## 2.4 IRON BUTTERFLY VALVES WITH INDICATORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Kennedy Valve Company; a division of McWane, Inc.
2. NIBCO INC.
3. Victaulic Company.
4. Approved equivalent.

B. Description:

1. Standard: UL 1091 and FM Global standard for indicating valves, (butterfly or ball type), Class Number 112.
2. Minimum Pressure Rating: 175 psig.
3. Body Material: Cast or ductile iron with nylon, EPDM, epoxy, or polyamide coating.
4. Seat Material: EPDM.
5. Stem: Stainless steel.
6. Disc: Ductile iron, nickel plated and EPDM or SBR coated.
7. Actuator: Worm gear.
8. Supervisory Switch: Internal or external.
9. Body Design: Grooved-end connections.

## 2.5 CHECK VALVES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. NIBCO INC.
2. Reliable Automatic Sprinkler Co., Inc. (The).
3. Victaulic Company.
4. Approved equivalent.

B. Description:

1. Standard: UL 312 and FM Global standard for swing check valves, Class Number 1210.
2. Minimum Pressure Rating: 175 psig.
3. Type: Single swing check.
4. Body Material: Cast iron, ductile iron, or bronze.
5. Clapper: Bronze, ductile iron, or stainless steel with elastomeric seal.
6. Clapper Seat: Brass, bronze, or stainless steel.
7. Hinge Shaft: Bronze or stainless steel.
8. Hinge Spring: Stainless steel.
9. End Connections: Flanged, grooved, or threaded.

## 2.6 NRS GATE VALVES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Dixon Valve.
2. ARGCO.
3. Approved equivalent.

B. Nonrising stem hydrant gate valve type. For installation on exterior test header piping. With brass threaded caps and chains and 2-1/2” hose connection threads.

## 2.7 TRIM AND DRAIN VALVES

A. Ball Valves:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. NIBCO INC.
    b. Tyco by Johnson Controls Company.
    c. Victaulic Company.
    d. Approved equivalent.

2. Description:

    a. Pressure Rating: 175 psig.
    b. Body Design: Two piece.
    c. Body Material: Forged brass or bronze.
    d. Port size: Full or standard.
    e. Seats: PTFE.
    f. Stem: Bronze or stainless steel.
    g. Ball: Chrome-plated brass.
    h. Actuator: Handlever.
    i. End Connections for Valves NPS 1 through NPS 2-1/2: Threaded ends.
    j. End Connections for Valves NPS 1-1/4 and NPS 2-1/2: Grooved ends.

B. Angle Valves:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Fire Protection Products, Inc.
    b. NIBCO INC.
    c. United Brass Works, Inc.
    d. Approved equivalent.

2. Description:

    a. Pressure Rating: 175 psig.
    b. Body Material: Brass or bronze.
    c. Ends: Threaded.
    d. Stem: Bronze.

e. Disc: Bronze.
f. Packing: Asbestos free.
g. Handwheel: Malleable iron, bronze, or aluminum.

C. Globe Valves:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. NIBCO INC.
b. United Brass Works, Inc.
c. Approved equivalent.

2. Description:

a. Pressure Rating: 175 psig.
b. Body Material: Bronze with integral seat and screw-in bonnet.
c. Ends: Threaded.
d. Stem: Bronze.
e. Disc Holder and Nut: Bronze.
f. Disc Seat: Nitrile.
g. Packing: Asbestos free.
h. Handwheel: Malleable iron, bronze, or aluminum.

## 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. Do not attempt to repair defective valves; replace with new valves.

### 3.2 INSTALLATION, GENERAL

A. Comply with requirements in the following Sections for specific valve-installation requirements and applications:

1. Section 211313 "Wet-Pipe Sprinkler Systems" for application of valves in wet-pipe, fire-suppression sprinkler systems.

B. Install valves having threaded connections with unions at each piece of equipment arranged to allow easy access, service, maintenance, and equipment removal without system shutdown. Provide separate support where necessary.

C. Install valves in horizontal piping with stem at or above the pipe center.

D. Install valves in position to allow full stem movement.

E. Install valve tags. Comply with requirements in Section 210553 "Identification for Fire-Suppression Piping and Equipment" for valve tags and schedules and signs on surfaces concealing valves; and the NFPA standard applying to the piping system in which valves are installed. Install permanent identification signs indicating the portion of system controlled by each valve.

END OF SECTION 210523

SECTION 210524 – BACKFLOW PREVENTERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Backflow Preventers.

1.2 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product data for each type of product: catalog sheets, specifications, and installation instruction. indicating UL or FM approved for each product.

1. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

E. Shop Drawings: for backflow preventers shall follow guidelines from Cross Connection Control Manual and NFPA 13 standards.

1. Include Riser detail showing vertical or horizontal Installation with Size, Type, and Manufacture.
2. Include adequate clearances from floors, ceilings, and walls must provide to access the test cocks and to allow the repair/or removal of the relief valve and check valves.
3. Include all assemblies showing adequate supports and/or restrained to prevent lateral movement.
4. Include drainage for all backflow prevention devices for all installations of Double-Check, Backflow-Prevention Assemblies and Reduced-Pressure-Principle Backflow preventers.
5. Sprinkler Riser detail show a means provided downstream of backflow prevention valves for flow test at system demand. Test is a Forward Flow Test to be conducted as per NFPA 13.

F. Field quality-control reports will be completed by a certified tester to test each backflow prevention device to certify completed works of approval completed on a NYS DOH- Form 1013.

G. Forward Flow Test completed to test system demand. NFPA 13 form, Contractor's Material and Test Certificate for Above ground piping filled out on report identified as Backflow device forward flow test All tests conducted and witnessed by the Director's Representative.

## 1.3 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with the NY State Department of Health Sanitary Code for Cross Connection Control, confirming to ASSE Standard 1013, AWWA C-511, USC specification manual for Cross Connection Control, and listed as acceptable in the NY State Department of Health, Environmental Health Manual.
2. Comply with codes and standards and Local Water Supply Company having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.

## 1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For Backflow Prevention Devices to include in emergency, operation, and maintenance manuals.

# PART 2 - PRODUCTS

## 2.1 BACKFLOW PREVENTERS

A. Reduced-Pressure-Detector, Fire-Protection Backflow Preventer Assemblies:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Watts.
    b. Zurn Industries, LLC.
    c. Ames Fire & Waterworks.
    d. Approved equivalent.

2. Basis of design model: Watts 757 BFG.
3. Standards: ASSE 1047 and UL's "Fire Protection Equipment Directory" listing or FM Global "Approval Guide."
4. Operation: Continuous-pressure applications.
5. Pressure Loss: 12 psig maximum, through middle one-third of flow range.
6. Size: 6 NPS.
7. Design Flow Rate: 1000 gpm UL Rated.
8. Selected Unit Flow Range Limits: 0-1500 gpm.
9. Pressure Loss at Design Flow Rate: 10 psi.
10. Design relief valve discharge rate: 350 gpm.
11. Body Material: Stainless steel.
12. End Connections: Flanged or grooved.
13. Configuration: Designed for horizontal, straight through flow.

14. Accessories:

    a. Valves: UL 262 and FM Global "Approval Guide" listing; OS&Y gate type with flanged ends on inlet and outlet.
    b. Air-Gap Fitting: ASME A112.1.2, matching backflow preventer connection.
    c. Bypass: With displacement-type water meter, shutoff valves, and reduced-pressure backflow preventer.
    d. Flood detection: With integrated flood detection sensor and local alarm.
    e. Drain piping: Gravity drain piping to discharge above exterior grade elevation. Refer to Specification “221000 Plumbing Piping.”

B. Backflow Preventer Test Kits:

1. Description: Factory calibrated, with gages, fittings, hoses, and carrying case with test-procedure instructions.

## 2.2 ROLLING WORK PLATFORM

A. OSHA-Compliant Rolling Work Platform:

1. Standards: Designed in accordance with OSHA 1910 Subpart D and ANSI A14.7.
2. Construction: Minimum 16ga powder-coated steel
3. Configuration: Elevated work platform and stair. Serrated stair treads and platform surface. Provided with four castor wheels and locking step mechanism. Safety handrails surrounding stairs and work platform.
4. Height: Minimum 30” to top of work platform.
5. Size: Minimum 36”x36” work platform.

## 2.3 INSTALLATION

A. Install backflow preventers in each water supply to Fire sprinkler systems. Comply with authorities having jurisdiction.

1. Locate and install as per guidelines from New York City Department of Environmental Protection cross connection control manual and the manufactures instructions.
2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application.
3. Do not install bypass piping around backflow preventers.
4. Install relief valve drain piping, discharging above grade at building exterior. Final sizing of drain piping to accommodate design relief valve discharge rate.

B. Store rolling work platform within room where the fire protection backflow preventer is located.

## 2.4 LABELING AND IDENTIFYING

A. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplate or sign on or near each of the following:

1. Reduced-Pressure-Detector, Fire Protection Backflow Preventer Assemblies.

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 210553 "Identification for Fire Suppression Piping and Equipment."

## 2.5 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Test each Reduced-Pressure-Detector Fire Protection Backflow Assemblies according to authorities having jurisdiction and the device's reference standard.

B. Prepare all permits and applications for backflow preventer approval and installation as required by the New York City Department of Environmental Conservation, local fire department, and local laws.

C. Backflow prevention devices will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

END OF SECTION 210524

SECTION 210529-HANGERS AND SUPPORTS FOR FIRE SUPPRESSION PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal pipe hangers and supports.
2. Trapeze pipe hangers.
3. Metal framing systems.
4. Fastener systems.
5. Pipe stands.
6. Equipment supports.

1.2 DEFINITIONS

A. MSS: Manufacturers Standardization Society of the Valve and Fittings Industry Inc.

1.3 PERFORMANCE REQUIREMENTS

A. NICET Level III or IV Technician: Provide Water-Based Fire Protection Layout with seal and signature of a NYS Registered Professional Fire Protection Engineer using performance requirements, design criteria, FC, and NFPA standards that are indicated in this specification and design documentation.

B. NYS Registered Professional Fire Protection Engineer. Provide Water-Based Fire Protection Layout using performance requirements, design criteria, FC, and NFPA standards that are indicated in this specification and design documentation.

C. Structural Performance: Hangers and supports for fire-suppression piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

1. Design supports for multiple pipes, including pipe hangers & stands, capable of supporting combined weight of supported systems, system contents, and test water.
2. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.

1.4 SUBMITTALS

A. Product data for each type of product: catalog sheets, specifications, and installation instruction. indicating UL or FM approved for each product.

B. Shop Drawings:

1. Show fabricated piping support structures, pipe racks, trapeze pipe hangers and anchors. Include installation details and include calculations for the following; include Product Data for components:
2. Support Frames, Piping, Tank, and Equipment Supports, and Anchorage: Indicate point loads and support locations, along with calculations and details keyed to the layouts pertaining to supports, support frames, and anchorage from the contract specification and design documentation.
3. Supplementary Steel: Show details of fabrication and installation. Indicate materials, thicknesses, gauges, sizes, dimensions, methods of joining and fastening, welds, finishes, details of reinforcement and embedment, attachments, anchorage, miscellaneous metal items incidental to basic fabrication shown, provisions for work of other trades, and other pertinent information from the contract specification and design documentation.
4. Trapeze pipe hangers.
5. Metal framing systems.
6. Pipe stands.
7. Equipment supports.

C. Welding Qualifications & Welding Certification: Qualify procedures and operators according to 2010 ASME Boiler and Pressure Vessel Code.

## 1.5 QUALITY ASSURANCE

A. Structural Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

# PART 2 - PRODUCTS

## 2.1 METAL PIPE HANGERS AND SUPPORTS

A. Acceptable Manufacturers: EATON TOLCO Fire protection solution, ITT Grinnell Pipe Hangers and supports, National Pipe Hanger Corporation, nVent Caddy products, Anvil International pipe hangers-ASC, or equal.

B. Carbon-Steel Pipe Hangers and Supports:

1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
2. Adjustable Clevis Hanger Zinc Plated with cross bolt and nut.
3. Hanger Rods: Continuous-thread rod, nuts, and washer made of low carbon steel/clear zinc plated.

C. Adjustable Swivel Rings and Supports:

1. Listed UL and FM & complies with Federal Specification A-A-1192A (Type 10), Manufactures' Standardization Society SP-69 (Type 10) and NFPA standards.
2. Adjustable Swivel Ring Carbon Steel Mil. Pre-Galvanized.
3. Hanger Rods: Continuous-threaded rod low carbon steel/clear zinc plated

D. Hinged Extension Split Ring Hanger:

1. Conforms to Federal Specification WW-H-171E & A-A-1192A, Type and Manufacturers Standardization Society ANSI/MSS SP-69 & SP-58, Type 12.
2. Malleable Iron/Electro-Galvanized
3. Hanger Rods: Continuous threaded rod low carbon steel/clear zinc plated

E. Standard Riser Clamp:

1. Listed UL and FM and conforms to Federal Specification WW-H-171 E & A-A-1192A, Type 8, and Manufacturers Standardization Society ANSI/MSS SP-69 & SP-58, Type 8.
2. Steel-Zinc Plated.

## 2.2 TRAPEZE PIPE HANGERS

A. Description: MSS SP-69, 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.

## 2.3 FASTENER SYSTEMS for CONCRETE, STEEL, and WOOD

A. Acceptable Manufactures: Red Head, Powers, Sammys threaded Rod Anchors, Hangermate, EATON TOLCO, Grinnell, Michigan Hanger, Newman, ANVIL, nVent Caddy, or equal.

B. Mechanical-Expansion Anchors: Insert-wedge-type or drop-ins. Male or Female ends zinc-coated steel anchors, for use in hardened Portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

C. Drilling Fasteners Screw Type: For concrete, wood, steel. Type of installation: vertical, horizontal-side mounted, and swivel.

D. Beam Clamps/ Beam Hangers: Zinc Plated adjustable malleable iron beam clamp, or adjustable forged steel beam clamp, and forged steel beam clamp with weldless eye nut (right hand thread) steel tie rod, nuts and washers.

E. Rod Couplings: Zinc Plated.

## 2.4 PIPE STANDS

A. General Requirements for Pipe Stands: Complying with NFPA 13 prescriptive requirements for pipe stands.

## 2.5 MISCELLANEOUS MATERIALS

A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.

B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, no shrink and nonmetallic grout; suitable for interior and exterior applications.

1. Properties: Non-staining, noncorrosive, and nongaseous.
2. Design Mix: 5000 psi, 28-day compressive strength.

# PART 3 - EXECUTION

## 3.1 HANGER AND SUPPORT INSTALLATION

A. Metal Pipe-Hanger Installation: Comply with MSS SP-69, MSS SP-89 and NFPA 13 Chapter 9 Hanging, Bracing, and Restraint of System Piping. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.

B. Metal Trapeze Pipe-Hanger Installation: Comply with MSS SP-69, MSS SP-89 and NFPA 13 Chapter 9 Hanging, Bracing, and Restraint of System Piping. 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 fabricates from ASTM A 36/A 36M, carbon-steel shapes selected for loads being supported. Weld steel according to AWS D1.1/D1.1M.

C. Fastener System Installation:

1. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions.
2. Install concrete screws in concrete after concrete is placed and completely cured. Using vertical mount, or horizontal mount. Install fasteners according to the manufacture’s written instructions.

D. Pipe Stand Installation:

1. Pipe Stand Types for pipe supports in mechanical room. Assemble components and mount on concrete floors or steel structure.

E. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

F. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, 2/-1/2” inch and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

G. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.

H. 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.

I. Hanger Spacing for Steel, Cooper, CPVC, and Ductile Iron as per NFPA 13/ Table 9.2.2.1 (a).

## 3.2 ADJUSTING

A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.

B. Where a sprinkler system exceeds 100psi for branch lines above a ceiling supplying sprinkler in a pendent position below a ceiling, the hanger assembly supporting the pipe supplying an end sprinkler in a pendent position shall be of a type that prevents upward movement of the pipe. Use a surge restrainer to prevent movement at each end of the line hanger assembly.

C. Trim excess length of continuous-thread hanger and support rods to 1-1/2.

## 3.3 PAINTING

A. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

## 3.4 HANGER AND SUPPORT SCHEDULE

A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.

B. Comply with MSS SP-69 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 finish.

D. Use carbon-steel pipe hangers and supports, metal trapeze pipe hangers and attachments for general service applications.

E. 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-Zinc plated (MSS Type 1): For suspension of non-insulated or insulated, stationary pipes NPS ½” inch to 30” inch.
2. Riser Clamps/Steel-Zinc Plated (MSS Type 8): For support of stationary steel pipe risers NPS 3/8” inch to 4” inch.
3. Malleable/Electro-Galvanized Split-Ring Hangers (MSS Type 12): For suspension pipes to allow piping to run close to ceilings or walls NPS3/8” inch to 2” inch.

4. Adjustable Swivel Ring/Pre-Galvanized Zinc (MSS Type 10): For suspension of stationary pipes NPS ½" inch to 2" inch.
5. Adjustable Swivel Trapeze Pipe Hanger/Pre-Galvanized (ASTM A653): For suspension of stationary pipes to allow for hanging of piping systems between structural attachments. NPS 1½" inch to 2" inch.
6. U-Bolts (MSS Type 24): For support of heavy pipes NPS ½" inch to 30" inch.
7. Pipe Saddle Supports (MSS Type 36): For support of pipes NPS 4" inch to 36" inch with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate.
8. Pipe Stanchion Saddles (MSS Type 37): For support of pipes NPS 4" inch to 36" inch, with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate, and with U-bolt to retain pipe.
9. Adjustable Pipe Saddle Supports (MSS Type 38): For stanchion-type support for pipes NPS 2-1/2" inch to 36" inch if vertical adjustment is required, with steel-pipe base stanchion support and cast-iron floor flange.
10. Surge Restraints if sprinkler system exceeds 100psi.

F. 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 ¾" inch to 24" inch.
2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS ¾" inch to 24" inch if longer ends are required for riser clamps.

G. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Steel Rod Couplings 3/8" through 7/8".
2. Steel Clevises (MSS Type 14): For piping installations.
3. Swivel Turnbuckles (MSS Type 15): For use with MSS Type 11, split pipe rings.

H. 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. Drilling fasteners steel screw for concrete, wood, or steel.
3. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joist construction, to attach to top flange of structural shape.
4. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
5. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
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 Brackets (MSS Type 34): For sides of steel or wooden beams.

I. Comply with MSS SP-69 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.

J. Use listed mechanical-expansion anchors instead of building attachments where required in concrete construction.

END OF SECTION 210529

SECTION 210553 - IDENTIFICATION FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Equipment labels.
2. Warning signs and labels.
3. Pipe labels.
4. Stencils.
5. Valve tags.
6. Warning tags.
7. Valve service identification chart frames.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

E. Samples: For color, letter style, and graphic representation required for each identification material and device.

F. Equipment-Label Schedule: Include a listing of all equipment to be labeled and the proposed content for each label.

G. Valve Schedules: Valve numbering scheme.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

A. Metal Labels for Equipment:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Brady Corporation.
b. Brimar Industries, Inc.
c. Carlton Industries, LP.
d. Champion America.
e. Craftmark Pipe Markers.
f. Emedco.
g. Kolbi Pipe Marker Co.
h. LEM Products Inc.
i. Marking Services, Inc.
j. Seton Identification Products; a Brady Corporation company.
k. Approved equivalent.

2. Material and Thickness: Brass, 0.032 inch, stainless steel, 0.025 inch, aluminum, 0.032 inch, or anodized aluminum, 0.032 inch thick, with predrilled holes for attachment hardware.
3. Letter Color: White.
4. Background Color: Red.
5. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
6. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances 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.
7. Fasteners: Stainless-steel rivets or self-tapping screws.
8. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

B. Label Content: Include equipment's Drawing designation or unique equipment number, Drawing numbers where equipment is indicated (plans, details, and schedules), and the Specification Section number and title where equipment is specified.

C. Equipment-Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch bond paper. Tabulate equipment identification number and identify Drawing numbers where equipment is indicated (plans, details, and schedules) and the Specification Section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

2.2 WARNING SIGNS AND LABELS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Brady Corporation.
2. Brimar Industries, Inc.
3. Carlton Industries, LP.
4. Champion America.
5. Craftmark Pipe Markers.
6. Emedco.
7. LEM Products Inc.
8. Marking Services Inc.
9. National Marker Company.
10. Seton Identification Products; a Brady Corporation company.
11. Stranco, Inc.
12. Approved equivalent.

B. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/16 inch thick, with predrilled holes for attachment hardware.

C. Letter Color: White.

D. Background Color: Red.

E. Maximum Temperature: Able to withstand temperatures up to 160 deg F.

F. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.

G. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances 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.

H. Fasteners: Stainless-steel rivets or self-tapping screws.

I. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

J. Label Content: Include caution and warning information, plus emergency notification instructions.

## 2.3 PIPE LABELS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Actioncraft Products, Inc.; a division of Industrial Test Equipment Co., Inc.
2. Brady Corporation.
3. Brimar Industries, Inc.
4. Carlton Industries, LP.
5. Champion America.
6. Craftmark Pipe Markers.
7. emedco.
8. Kolbi Pipe Marker Co.
9. LEM Products Inc.

10. Marking Services Inc.
11. Seton Identification Products; a Brady Corporation company.
12. Approved equivalent.

B. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service and showing flow direction according to ASME A13.1.

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, pipe size, and an arrow indicating flow direction.

1. Flow-Direction Arrows: Integral with piping-system service lettering to accommodate both directions or as separate unit on each pipe label to indicate flow direction.
2. Lettering Size: Size letters according to ASME A13.1 for piping.

F. Pipe-Label Colors:

1. Background Color: Safety Red.
2. Letter Color: White.

## 2.4 STENCILS

A. Stencils for Piping:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Brimar Industries, Inc.
b. Craftmark Pipe Markers.
c. Kolbi Pipe Marker Co.
d. Marking Services Inc.
e. Approved equivalent.

2. Lettering Size: Size letters according to ASME A13.1 for piping.
3. Stencil Material: Aluminum.
4. Stencil Paint: Safety Red, exterior, gloss, alkyd enamel. Paint may be in pressurized spray-can form.
5. Identification Paint: White, exterior, alkyd enamel. Paint may be in pressurized spray-can form.

## 2.5 VALVE TAGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Actioncraft Products, Inc.; a division of Industrial Test Equipment Co., Inc.
2. Brady Corporation.
3. Brimar Industries, Inc.
4. Carlton Industries, LP.
5. Champion America.
6. Craftmark Pipe Markers.
7. Emedco.
8. Kolbi Pipe Marker Co.
9. LEM Products Inc.
10. Marking Services Inc.
11. Seton Identification Products; a Brady Corporation company.
12. Approved equivalent.

B. Description: Stamped or engraved with 1/4-inch letters for piping-system abbreviation and 1/2-inch numbers.

1. Tag Material: Brass, 0.032 inch, stainless steel, 0.025 inch, aluminum, 0.032 inch, or anodized aluminum, 0.032 inch thick, with predrilled holes for attachment hardware.
2. Fasteners: Brass wire-link chain, beaded chain, or S-hook.
3. Valve-Tag Color: Safety Red.
4. Letter Color: White.

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. Valve-tag schedule shall be included in operation and maintenance data.

## 2.6 WARNING TAGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Brady Corporation.
2. Brimar Industries, Inc.
3. Champion America.
4. Craftmark Pipe Markers.
5. Emedco.
6. Kolbi Pipe Marker Co.
7. LEM Products Inc.
8. Marking Services Inc.
9. Seton Identification Products; a Brady Corporation company.
10. Approved equivalent.

B. Description: Preprinted or partially preprinted, accident-prevention tags, of plasticized card stock with matte finish suitable for writing.

1. Size: 3 by 5-1/4 inches minimum.
2. Fasteners: Brass grommet and wire or Reinforced grommet and wire or string.

3. Nomenclature: Large-size primary caption such as "DANGER," "CAUTION," or "DO NOT OPERATE."
4. Color: Safety Yellow background with black lettering.

## 2.7 VALVE SERVICE IDENTIFICATION CHART FRAMES

A. Type: Satin finished extruded aluminum frame with rigid clear plastic glazing, size to fit 8-1/2 x 11 inches valve chart.

# 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 GENERAL INSTALLATION REQUIREMENTS

A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be installed.

B. Coordinate installation of identifying devices with locations of access panels and doors.

C. Install identifying devices before installing acoustical ceilings and similar concealment.

## 3.3 EQUIPMENT LABEL INSTALLATION

A. Install or permanently fasten labels on each major item of mechanical equipment.

B. Locate equipment labels where accessible and visible.

## 3.4 PAINTING OF PIPING

A. Piping: Painting of piping is specified in Section 099123 "Interior Painting."

## 3.5 VALVE-TAG INSTALLATION

A. Install tags on valves and control devices in fire-suppression piping systems. List tagged valves in a valve-tag schedule.

B. Valve-Tag Application Schedule: Tag valves according to size, shape, and with captions similar to those indicated in "Valve-Tag Size and Shape" Subparagraph below:

1. Valve-Tag Size and Shape:

    a. Wet-Pipe Sprinkler System: 1-1/2 inches or 2 inches, round, square, or rectangular.

C. Valve service identification charts:

1. Provide 2 framed valve charts for each piping system specified to be provided with valve identification tags. Type charts on 8-1/2 x 11 inches heavy white bond paper, indicating valve number, service and location.
2. Hang framed charts at locations as directed.

## 3.6 WARNING-TAG INSTALLATION

A. Write required message on, and attach warning tags to equipment and other items where required.

END OF SECTION 210553

SECTION 210800 - COMMISSIONING OF FIRE SUPPRESSION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Description.

B. Responsibilities.

C. Related Work.

D. Test Equipment.

1.2 DESCRIPTION

A. The purpose of this section is to specify Division 21 responsibilities in the commissioning process.

B. The systems to be commissioned are listed in Section 019113.

C. Commissioning requires the participation of the Division 21 Contractor to ensure that all systems are operating in a manner consistent with the Contract Documents. The general commissioning requirements and coordination are detailed in Section 019113. Division 21 Contractor shall be familiar with all parts of Section 019113 and shall execute all commissioning responsibilities assigned to them in the Contract Documents.

1.3 RESPONSIBILITIES

A. Refer to Section 019113.

1.4 RELATED WORK

A. Specific commissioning requirements are given in the following sections of these specifications. All the following sections apply to the Work of this section.

1. Section 017823 - Operations and Maintenance.
2. Section 017900 - Demonstration and Training.
3. Section 019113 – Commissioning.
4. Section 220800 - Commissioning of Plumbing.
5. Section 230800 - Commissioning of HVAC.
6. Section 260800 - Commissioning of Electrical.

PART 2 - PRODUCTS

2.1 TEST EQUIPMENT

A. The Contractor shall provide all test equipment necessary to fulfill the testing requirements of this Division. This equipment includes, but is not limited to, the following:

1. Handheld temperature meter.
2. Infrared thermometer gun.

B. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the related specifications. If not otherwise noted, the following minimum requirements apply:

1. Temperature sensors and digital thermometers shall have a certified calibration within the past year to an accuracy of 0.5F and a resolution of +/- 0.1F.
2. All equipment shall be calibrated according to the manufacturer's recommended intervals and when dropped or damaged. Calibration tags shall be affixed or certificates readily available.

C. Commissioned Fire Alarm systems shall include:

1. Verification of Operations with Fire Alarm Technician of Alarm Control Panel.
2. Verification of Remote Annunciation Alarm Control Panel with Fire Alarm.
3. Technician Verification of Operations of Pull Stations with Fire Alarm Technician.
4. Verification of Operations of Smoke Detectors with Fire Alarm Technician.
5. Verification of Operations of Horn / Strobe with Fire Alarm Technician.

D. Refer to Section 019113 for additional Division 21 requirements.

PART 3 - EXECUTION

A. Refer to Section 019113.

END OF SECTION

SECTION 211119 – FIRE DEPARTMENT CONNECTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Exposed-type fire-department connections.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each fire-department connection.

PART 2 - PRODUCTS

2.1 EXPOSED-TYPE FIRE-DEPARTMENT CONNECTION

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Elkhart Brass Mfg. Co., Inc.
2. GMR International Equipment Corporation.
3. Guardian Fire Equipment, Inc.
4. Approved equivalent.

B. Standard: UL 405.

C. Type: Exposed, projecting, for wall mounting.

D. Pressure Rating: 175 psig minimum.

E. Body Material: Corrosion-resistant metal.

F. Inlets: Brass with threads according to NFPA 1963 and matching local fire-department sizes and threads. Include extension pipe nipples, brass lugged swivel connections, and check devices or clappers.

G. Escutcheon Plate: Round, brass, wall type.

H. Outlet: Back, with pipe threads.

I. Number of Inlets: Two.

J. Escutcheon Plate Marking: To read “SPRINKLER”.

K. Finish: Rough brass or bronze.

L. Outlet Size: NPS 4.

M. Sign: To read “FIRE DEPARTMENT CONNECTION – SPRINKLER THROUGHOUT” or similar. Lettering permanently cast in durable non-ferrous metal plate secured to wall or fence above fire department connection.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of fire-department connections.

B. Examine roughing-in for fire-suppression system to verify actual locations of piping connections before fire-department connection installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

A. Install wall-type fire-department connections.

B. Install automatic (ball-drip) drain valve at each check valve for fire-department connection, piped to exterior using galvanized steel pipe.

END OF SECTION 211119

SECTION 211313 - WET-PIPE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipes, fittings, and specialties.
2. Specialty valves.
3. Sprinklers.
4. Alarm devices.
5. Pressure gauges.

1.3 DEFINITIONS

A. Standard-Pressure Sprinkler Piping: Wet-pipe sprinkler system piping designed to operate at working pressure of 175-psig maximum.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Fire Protection Engineer Qualification:

1. Where required by this specification or the project drawings to provide the services of a professional Director’s Representative, the professional Director’s Representative shall be a licensed Fire Protection Engineer, who is actively licensed in the State of New York.
2. A licensed Fire Protection Engineer shall be defined as a register professional Director’s Representative (P.E.) who has passed the fire protection engineering written examination administered by the National Council of Examiners for Engineering and Surveys (NCEES) or who has obtained a B.S. or M.S. Degree in “Fire Protection Engineering” from an accredited engineering program at a recognized University or Institute.

E. Product Data: For each type of product: catalog sheets, specifications and installation instructions indicating UL listing or FM approval for each product.

1. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

F. Submit an Environmental Product Declaration (EPD) from the manufacturer for steel pipe within this specification section, if available. A statement of the contractor's good faith effort to obtain the EPD shall be provided if not available.

1. Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 *Environmental labels and declarations*, ISO 14044 *Environmental management – Life cycle assessment*, and ISO 21930 *Core rules for environmental product declarations of construction products and services*.

G. Shop Drawings: For wet-pipe sprinkler systems per NFPA 13 "Standard for the Installation of Sprinkler Systems" Plans and Calculations.

1. Include plans, elevations, sections, and attachment details.
2. Include diagrams for power, signal, and control wiring.
3. Include Hydraulic Calculations, computer generated and referenced to remote areas on plans.
4. The shop drawings shall be developed by and the hydraulic calculations shall be performed by person(s) meeting one of the following minimum qualification levels (without substitution):

    a. National Institute for Certification in Engineering Technologies (NICET) Level IV for Water-Based Fire Protection Systems certified technicians, OR
    b. A licensed Professional Fire Protection Engineer, licensed in the State of New York, and as defined by this specification.

5. Where a NICET Level III or IV Technician in "Water-Based Fire Protection System Layout" performs the shop drawings and hydraulic calculations, the drawings and hydraulic calculations shall bear the seal and signature of the NICET Technician.
6. Where a licensed Professional Fire Protection Engineer performs the shop drawings and hydraulic calculations, the drawings and hydraulic calculations shall bear the seal and signature of the licensed Professional Fire Protection Engineer.

H. Quality Control Submittals:

1. Design Data: All portions of the sprinkler system shall be sized in accordance with NFPA requirements for Hydraulically Designed Systems. Submit Drawings and hydraulic calculations for approval.
2. Certificates: As required under Quality Assurance Article.
3. Company Field Advisor Data: Include:

    a. Name, business address and telephone number of Company Field Advisor secured for the required services.
    b. Certified statement from the Company listing the qualifications of the Company Field Advisor.

c. Services and each product for which authorization is given by the Company, listed specifically for the project.

d. Copy of:

1) NICET Letter of Approval of advisor indicating Level III for Water-Based Fire Protection Systems certification or
2) NICET Letter of Approval of advisor indicating Level IV for Water-Based Fire Protection Systems certification OR
3) Licensure certificate for Professional Engineering in the State of New York, AND National Council of Examiners for Engineering and Surveying (NCEES) record/certificate for verification of completion of the Principles of Practice of Fire Protection Engineering Exam of copy of certified B.S. or M.S. degree from an accredited Fire Protection Engineering program.

e. Contractor's Qualifications Data:

1) Contractor's name, business address and telephone number
2) Names and addresses of 3 similar projects that each person has worked on during the past 5 years.
3) Name of Project Manager for the project that is National Institute for Certification in Engineering Technologies (NICET) certified as Level III or IV for Water-Based Fire Protection Systems, or is a registered Professional Fire Protection Engineering in the State of New York. Provide a copy of Project Manager's:

a) NICET Letter of Approval indicating Level III for Water-Based Fire Protection Systems certification, OR
b) NICET Letter of Approval indicating Level IV for Water-Based Fire Protection Systems certification, OR
c) Licensure certificate for Professional Engineering in the State of New York, AND National Council of Examiners for Engineering and Surveying (NCEES) record/certificate for verification of completion of the Principles of Practice of Fire Protection Engineering Exam or copy of certified B.S. or M.S. degree from an accredited Fire Protection Engineering program.

4) Installer's Qualifications Data:

a) Name of each person will be performing the Work and their employer's name, business address and telephone number.
b) Names and addresses of 3 similar projects that each person has worked on during the past 5 years.

5) Working Drawing/Hydraulic Calculation Preparer Qualification Data. Working drawings and hydraulic calculations shall be prepared by either a:

a) National Institute for Certification in Engineering Technologies (NICET) certified as Level III for Water-Based Fire Protection Systems technician.

b) National Institute for Certification in Engineering Technologies (NICET) certified as Level IV for Water-Based Fire Protection Systems technician.
c) A licensed Professional Fire Protection Engineer, licensed in the State of New York, and as defined by this specification.
d) Name of each person who will be preparing working drawings/hydraulic calculations, required for the Work.
e) Upon request, furnish names and addresses of the required number of similar projects that each person has worked on which meet the experience criteria.

6) For the Working Drawing/Hydraulic Calculation Preparer qualification data, provide a copy of:

a) NICET Letter of Approval of supervisor indicating Level III for Water-Based Fire Protection Systems certification OR
b) NICET Letter of Approval of supervisor indicating Level IV for Water-Based Fire Protection Systems certification OR
c) Licensure certificate for Professional Engineering in the State of New York, AND National Council of Examiners for Engineering and Surveying (NCEES) record/certificate for verification of completion of the Principles of Practice of Fire Protection Engineering Exam or copy of certified B.S. or M.S. degree from an accredited Fire Protection Engineering program.

I. Certifications:

1. Welding Certificates.
2. Certified NICET Level III or IV Technician for "Water-Based Fire Protection Layout".
3. NYS registered Professional Fire Protection Engineer. (minimum 3 years of experience having the ability to assess and design water-based fire suppression systems).

J. Fire-hydrant flow test report. As per NFPA 13 "Standard for the Installation of Sprinkler Systems", test shall be conducted no more than 12 months prior to the working plan submittal.

K. Field Test Reports: Test Certificates and Test Forms to be used for projects. Each report chosen to which is applicable for each project specific. NFPA 13-Contractor's Material and Test Certificate for Aboveground Piping

L. Coordination Drawings: Sprinkler systems, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved: Comply with requirements in Section 013350 "Computer Aided Design Coordination Drawings".

1. Domestic water piping and mechanical.
2. HVAC Ductwork and units.
3. Electrical conduit and Breaker panels.
4. Structural elements.
5. Items penetrating finished ceiling include the following:

a. Lighting fixtures.

b. Air outlets and inlets.
c. Smoke Detectors.
d. Exit signs.

## 1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For wet-pipe sprinkler systems and specialties to include in emergency, operation, maintenance manuals, parts list for mechanical and electric devices, and Publication NFPA 25 “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems” Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems. Submit one (1) set of copies to the Director’s Representative and a second set of copies to be inserted into the AS Built Drawing Cabinet located in the Fire Sprinkler Riser Room.

B. Warranty Information: Providing one-year parts and labor warranty certificate. Submit one copy to the Director’s Representative and provide a second copy to be inserted into the AS Built Drawing Cabinet located in the Fire Sprinkler Riser Room.

C. As-Built Drawings and Hydraulic Calculations: After final acceptance of the system all drawings and calculations shall have the NICET level III or IV Technician stamp and a NYS Registered Professional Fire Protection Engineer seal and signature. Or a seal and signature by a NYS Registered Professional Fire Protection Engineer. Submit one (1) set of copies to the Director’s Representative as a hard copy electronically and as a .pdf and .dwg. files. Then provide a second set of hard copies to be inserted into the As-Built Drawing Cabinet located in the Fire Sprinkler Riser Room.

D. As per Fire Code of New York State follow requirements in 901.2.1 Statement of compliance. Before requesting final approval of the installation, the installing contractor shall furnish a written statement to the fire code official that the subject fire protection system has been installed in accordance with approved plans and has been tested in accordance with the manufacture’s specifications and the appropriate installation standard. Any deviation from the design standards shall be noted and copies of the approvals for such deviations shall be attached to the written statement. Submit pdf copy to the Director’s Representative and provide a second hard copy and pdf to be inserted into the As-Built Drawing Cabinet located in the Fire Sprinkler Riser Room.

E. Field Test Reports: Completed NFPA Test Certificates and Test Forms signed by Installing Contractor and witnessed by Director’s Representative including their signature. Submit all related test reports in pdf to the Director’s Representative and provide the same related test reports in hard copy and pdf to be inserted into the As-Built Drawing Cabinet located in the Fire Sprinkler Riser Room.

1. Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping”, and NYSDOH Form 1013-Report on Test and Maintenance of Backflow Prevention Device.

## 1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Spare Parts: Furnish the following items and deliver to the Director’s Representative for storage in spare sprinkler head cabinets:

1. Spare sprinkler heads as required by NFPA 13.

2. One sprinkler head wrench to fit each type sprinkler.

B. An As-Built Drawing Cabinet shall be installed at each project that has a new Fire Sprinkler System, alteration and fit-up which shall be located in the Fire Sprinkler Riser Room. All close out submittals for the project record documents shall be stored in the AS Built Drawing Cabinet.

1. As-Built Drawing Cabinet:

a. Rigid 16 gage steel construction/ Red powder coat finish.
b. Dimensions: 26.35”H x 14.25” W x 4” H.
c. Full-length, stainless steel piano hinge w/Boston lock
d. Surface mount w/ wall mount holes.

C. Laminated 11x17 paper: Emergency and Working Procedures and System Riser Diagram: Fasten to wall located in the Fire Sprinkler Riser Room.

1. Start-up procedures.
2. Shut-down procedures.
3. Riser diagram showing valve locations and equipment with brass identification tags.
4. Alarm Co. & Monitoring Co. contact information.
5. Installing Contractors information.

D. Laminated 11x17 Building Map: Fasten to wall located in Fire Sprinkler Room.

1. Showing Riser Detail Location: Include Main Control Valves, Main Drains, Low Point Drains, Inspectors Test Stations, Fire Alarm Control Panel, and Annunciator Panel.
2. Each System numbered and color coded in what areas they cover of the building.

## 1.7 QUALITY ASSURANCE

A. Company Field Advisor with qualifications identified above. Secure the services of a Company Field Advisor for the following:

1. Rend advice regarding installation and final adjustment of the system.
2. Witness final system test and then certify with an affidavit that the system is installed in accordance with the Contract Documents and is operating properly.
3. Train facility personnel in operation, and routine maintenance of the system.
4. The Company Field Advisor shall be certified per:

a. National Institute for Certification in Engineering Technologies (NICET) Level III for Water-Based Fire Protection Systems certified technicians, OR
b. National Institute for Certification in Engineering Technologies (NICET) Level IV for Water-Based Fire Protection Systems certified technicians, OR
c. A licensed Professional Fire Protection Engineer, licensed in the State of New York, and as defined by this specification.

B. Contractor Qualifications: The Contractor performing the Work of this Section shall be experienced in sprinkler work and shall have been regularly engaged in the installation of

sprinkler systems for a minimum of 10 years and shall, upon request, furnish to the Director's Representative the names and addresses of 5 similar projects which the Contractor worked on during the last 5 years.

1. The Project Manager employed to supervise the Work shall be National Institute for Certification in Engineering Technologies (NICET) certified as Level III or IV for Water-Based Fire Protection Systems, OR shall be a professional Fire Protection Engineer (as defined by this specification) licensed in the State of New York. The services of a Project Manager shall include, but are not limited to, the following:

    a. Attendance at meetings during construction.
    b. Render advice regarding installation and final adjustment of the system.
    c. Witness final system test and then certify with an affidavit that the system is installed in accordance with the Contract Documents and is operating properly.
    d. Performance of hydraulic calculations and development of Working Drawings.

C. Installer Qualifications: The workers and supervisors performing the Work of this Section shall be personally experienced in sprinkler systems Work and shall have been regularly employed by a company engaging in the installation of sprinkler systems for a minimum of 5 years and shall, upon request, furnish to the Director's Representative the names and addresses of 5 similar projects which they have worked on during the last 5 years.

D. Working Drawing/Hydraulic Calculation Preparer Qualifications:

1. The persons employed to prepare these documents for the Work shall be personally experienced in sprinkler work and shall have been regularly performing such work for a minimum of 5 years while in the employ of a company or companies engaged in the installation of fire protection systems.

    a. Upon request, furnish to the Director's Representative the names and addresses of five similar projects which the foregoing people have prepared working drawings/hydraulic calculations on during the past 3 years.
    b. The persons employed to prepare these documents for the Work shall be performed by person(s) meeting one of the following minimum qualification levels (without substitution):

        1) National Institute for Certification in Engineering Technologies (NICET) Level III for Water-Based Fire Protection Systems certified technicians, OR
        2) National Institute for Certification in Engineering Technologies (NICET) Level IV for Water-Based Fire Protection Systems certified technicians, OR
        3) A licensed Professional Fire Protection Engineer, licensed in the State of New York, and as defined by this specification.

E. System Acceptance:

1. Comply with NFPA 13 requirements.
2. Complete and sign the Contractor's Material and Test Certifications and provide copies to Director's Representative.
3. Tests shall be witnessed by the Director's Representative.

F. Regulatory Requirements:

1. Materials for the Work of this Section shall be Underwriter's Laboratories listed, and/or Factory Mutual approved.

G. Certification: NFPA Contractor's Material and Test Certificate.

H. Welding Qualifications: Qualify procedures and operators according to 2010 ASME Boiler and Pressure Vessel Code.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

A. Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with NFPA 13.

B. Standard-Pressure Piping System Component: Listed for 175-psig minimum working pressure.

1. Sprinkler system design shall be approved by authorities having jurisdiction.
2. Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves, and backflow preventers.
3. Sprinkler Occupancy Hazard Classifications:

a. Refer to fire protection drawings.

4. Minimum Density for Automatic-Sprinkler Piping Design:

a. Refer to fire protection drawings.

5. Maximum Protection Area per Sprinkler:

a. Refer to fire protection drawings.

### 2.2 STEEL PIPE AND FITTINGS

A. Schedule 40: ASTM A 53 "Standard Specification for Pipe, Steel, Black and Hot-Dipper, Zinc-Coated, Welded and Seamless", Type E, Grade B; with factory- or field-formed ends to accommodate joining method. As per Part 3-Pipe Schedule.

B. Schedule 40: ASTM A 135 "Standard Specification for Electric-Resistance-Welded Steel Pipe", Grade A; with factory- or field-formed ends to accommodate joining method. As per Part 3-Pipe Schedule.

C. Schedule 40: ASTM A 795 "Standard Specification for Black and Hot-Dipper Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use", Type E, Grade A; with factory- or field-formed ends to accommodate joining method. As per Part 3-Pipe Schedule.

D. Galvanized and Black Steel Pipe Nipples: ASTM A 733 “Standard Specification for Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples” made of ASTM A 53 “Standard Specification for Pipe, Steel, Black and Hot-Dipper, Zinc-Coated, Welded and Seamless”, standard-weight, seamless steel pipe with threaded ends.

E. Galvanized and Black Steel Couplings: ASTM A 865 “Standard Specification for Threaded Couplings, Steel, Black or Zinc-Coated (Galvanized) Welded or Seamless, for Use in Steel Pipe Joints”, threaded.

F. Galvanized and Uncoated, Gray-Iron Threaded Fittings: ASME B 16.4 “Gray Iron Threaded Fittings Classes 125 and 250”, Class 125, standard pattern.

G. Malleable- or Ductile-Iron Unions: UL 860 “Pipe Unions for Flammable and Combustible Fluids and Fire-Protection Service”.

H. Cast-Iron Flanges: ASME B16.1 “Gray Iron Pipe Flanges and Flanges Fittings Classes 25, 125 and 250”, Class 125.

I. Steel Flanges and Flanged Fittings: ASME B16.5 “Pipe Flanges & Flanged Fittings”, Class 150.

1. Pipe-Flange Gasket Materials: AWWA C110 “Standard for Ductile-Iron and Gray-Iron Fittings”, rubber, flat face, 1/8 inch thick.

    a. Class 125 and Class 250, Cast-Iron, Flat-Face Flanges: Full-face gaskets.
    b. Class 150 and Class 300, Ductile-Iron or -Steel, Raised-Face Flanges: Ring-type gaskets.

2. Metal, Pipe-Flange Bolts and Nuts: Carbon steel unless otherwise indicated.

J. Steel Welding Fittings: ASTM A 234 “Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service” and ASME B16.9 “Factory-Made Wrought Buttwelding Fittings”.

1. Welding Filler Metals: Comply with AWS D10.12 “Guide for Welding Mild Steel Pipe” for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

K. Grooved-Joint, Steel-Pipe Appurtenances:

1. Pressure Rating: 175-psig minimum.
2. Painted Grooved-End Fittings for Steel Piping: ASTM A 47 “Standard Specification for Ferritic Malleable Iron Castings”, malleable-iron casting or ASTM A 536 “Standard Specification for Ductile Iron Castings”, ductile-iron casting, with dimensions matching steel pipe.
3. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 “Standard for Grooved and Shouldered Joints” and UL 213 “Standard for Rubber Gasketed Fittings for Fire-Protection Service” rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, and bolts and nuts.
4. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 “Standard for Grooved and Shouldered Joints” and UL 213 “Standard for Rubber Gasketed Fittings for Fire-Protection

Service" flexible pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, bolts and nuts.

L. Mechanical-T Bolted Branch Outlets: ASTM A-536 "Standard Specification for Ductile Iron Castings", ASTM A-449 and ASTM A-183

1. Pressure Rated up to 500psi maximum working pressure.
2. Painted or galvanized
3. Sizes from 2"x1/2" through 8"x4"
4. Grooved outlet or Female threaded outlet.

2.3 SPECIALTY VALVES

A. Listed in UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."

B. Pressure Rating:

1. Standard-Pressure Piping Specialty Valves: 175-psig minimum.

C. Body Material: Cast or ductile iron.

D. Size: Same as connected piping.

E. End Connections: Flanged or grooved.

F. Riser Check Valve:

1. UL & FM listed
2. Design: For horizontal or vertical installation
3. Trim kit with main drain, two (2) 3-way globe valves w/ plugs, two (2) 300psi water gauges.

G. Riser Manifold Assembly

1. Ductile iron construction, incorporating a control valve, check valve, flow switch, test & drain assembly, adjustable relief valve, and system gauges in one compact body/footprint, and shall be manufactured for "right" and "left"-hand orientations.
2. The test & drain assemble shall contain an adjustable relief valve, with a range of 175 to 310 psi, and a universal test orifice of K2.8; to provide testing capabilities of systems with k-factors ranging from K2.8 and larger. Shall be rated for use at the maximum service pressure of 300 psi and shall be UL listed and FM approved. Universal manifold check valves shall be the Model UMC; as manufactured by Victaulic or equivalent.

H. Automatic (Ball Drip) Drain Valves:

1. Manufacturers:

a. Reliable Automatic Sprinkler Co., Inc.
b. Viking Group Inc.
c. American Fire Supply

d. Dixon Valve & Coupling Company, LLC
e. Approved equivalent.

2. Standard: UL 1726.
3. Pressure Rating: 175-psig minimum.
4. Type: Automatic draining, ball check.
5. Size: NPS 3/4.
6. End Connections: Threaded.

## 2.4 AIR VENT

A. Automatic Air Vent:

1. Manufacturers:

a. AGF Manufacturing, Inc.
b. Reliable Automatic Sprinkler Co., Inc.
c. Approved equivalent.

2. Description: Automatic air vent that automatically vents trapped air without human intervention.
3. Standard: UL listed or FM Global approved for use in wet-pipe fire sprinkler systems.
4. Vents oxygen continuously from system.
5. Float valve to prevent water discharge.
6. Minimum Water Working Pressure Rating: 175 psig.

B. Automatic Air Vent Assembly:

1. Description: Automatic dual air vent assembly that automatically vents trapped air without human intervention, including Y-strainer and ball valve in a pre-piped assembly.
2. Standard: UL listed or FM Global approved for use in wet-pipe fire sprinkler system.
3. Vents oxygen continuously from system.
4. Float valve to prevent water discharge.
5. Minimum Water Working Pressure Rating: 175 psig.

## 2.5 SPRINKLER PIPING SPECIALTIES

A. Branch Outlet Fittings:

1. Manufacturers:

a. AGF Manufacturing, Inc.
b. Viking
c. Anvil International
d. Approved equivalent.

2. Standard: UL 213.
3. Pressure Rating: 175-psig minimum.
4. Body Material: Ductile-iron housing with EPDM seals and bolts and nuts.

5. Type: Mechanical-tee and -cross fittings.
6. Configurations: Snap-on and strapless, ductile-iron housing with branch outlets.
7. Size: Of dimension to fit onto sprinkler main and with outlet connections as required to match connected branch piping.
8. Branch Outlets: Grooved, plain-end pipe, or threaded.

B. Test and Drain Valves:

1. Standard UL's "Fire Protection Equipment Directory" or FM Global "Approval Guide."
2. Pressure Rating: 175-psig minimum.
3. Body Material: bronze housing with orifice, sight glass, and integral test valve.
4. Include: adjustable pressure relief valve
5. Size: Same as connected piping.
6. Inlet and Outlet: Threaded or grooved.
7. Locking plate kit to prevent unintentional alarms.

C. Valve Locking Devices: Test and Drain Valves shall have padlocking feature in both the open and closed position.

1. Padlock: FPPI Break Shackle Locks-#764.40/keyed alike furnished with 2 keys for each lock.
2. Key Tags: 1-1/2 in. dia., brass, stamped with valve number and service specified in Section 210553.
3. Fasteners: Brass wire link chain with S-hooks.

D. Flexible Sprinkler Hose Fittings:

1. Manufacturers:

    a. AGF Manufacturing, Inc.
    b. Victaulic
    c. Reliable Automatic Sprinkler Co., Inc.
    d. Tyco Fire Products; brand of Johnson Controls International plc, Building Solutions North America.
    e. Approved equivalent.

2. Standard: UL 1474.
3. Type: Flexible hose for connection to sprinkler, and with bracket for connection to ceiling grid.
4. Pressure Rating: 175-psig minimum.
5. Size: Same as connected piping, for sprinkler.
6. Required identification label to be installed on all flexibly sprinkler hose assemblies, as follows: "CAUTION; Relocation of this device should only be performed by qualified and/or certified individuals that are aware of the original system design criteria, hydraulic criteria, sprinkler head listing parameters, and knowledge of the fire code and NFPA 13 installation standards. Relocation of device without the knowledge could adversely affect the performance of this fire protection and life safety system."

    a. Refer to Section 210553 "Identification for Fire Suppression Piping and Equipment" Section 2.2 "Warning Signs and Labels".

## 2.6 SPRINKLERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
   1. Reliable Automatic Sprinkler Co., Inc. (The).
   2. Tyco Fire Products; brand of Johnson Controls International plc, Building Solutions North America.
   3. Victaulic Company.
   4. Viking Corporation.
   5. Approved equivalent.

B. Sprinkler Heads:

   1. Upright or Pendent Type: Deflector designed to distribute water downward in a uniform hemispherical spray pattern.
   2. Concealed Dry Pendent Type: Designed to prevent water and condensation from being trapped below the drainable system piping.
   3. Concealed Pendent Type: All or part of sprinkler body including shank thread mounts above lower plane of finished ceiling.
   4. Dry Sidewall Type: Designed to prevent water and condensation from being trapped below the drainable system piping. Listed for Ordinary Hazard applications where indicated on drawings.

   5. Markings: Stamp sprinkler type on deflector in addition to NFPA's color code requirements covering temperature classification.
   6. Finish:

      a. Upright or Pendent Type: Brass
      b. Concealed Pendent Type: Brass with cover plate factory painted to match ceiling.
      c. Concealed Dry Pendent Type: Brass with cover plate factory painted to match ceiling.
      d. Dry Sidewall Type: Brass

C. Spare Sprinkler Head Cabinet: Steel, with hinged cover, constructed of minimum 20 gage material and fitted with 16 gage steel racks designed to hold quantities and types of spare sprinkler heads and sprinkler head wrenches.

   1. Finish: Bright red, baked on enamel.

## 2.7 ALARM DEVICES

A. Alarm-device types shall match piping and equipment connections.

B. Electrically Operated Notification Appliances:

   1. Electronic UL Listed Horn/Strobe Assembly with clear lens, weatherproof, operating on nominal 24VDC and compatible with standard fire alarm devices. Provide weatherproof backbox. Potter SASH series or approved equal.

a. Sign, Integrated: Mount on wall or fence above horn/strobe. Sign is to consist of white lettering on red plastic identifying it as a "Sprinkler Fire Alarm" and instructing viewers to call 911, police, or fire department.
b. Horn/strobe provided by P-Contract, wired and programmed through the fire alarm system to activate upon water flow switch signal through the building fire alarm system by E-Contract.

C. Water-Flow Indicators:

1. Manufacturers:

a. Viking Group.
b. Potter Electric Signal Company, LLC.
c. Approved equivalent.

2. Standard: UL 346.
3. Water-Flow Detector: Electrically supervised.
4. Components: Two single-pole, double-throw circuit switches for isolated alarm and auxiliary contacts, 7 A, 125-V ac and 0.25 A, 24-V dc; complete with factory-set, field-adjustable retard element to prevent false signals and tamperproof cover that sends signal if removed.

5. Type: Paddle operated.
6. Pressure Rating: 250 psig.
7. Design Installation: Horizontal or vertical.

D. Valve Supervisory Switches:

1. Manufacturers:

a. Fire-Lite Alarms; Honeywell International, Inc.
b. Kennedy Valve Company; a division of McWane, Inc.
c. Potter Electric Signal Company, LLC.
d. System Sensor.
e. Approved equivalent.

2. Standard: UL 346.
3. Type: Electrically supervised.
4. Components: Single-pole, double-throw switch with normally closed contacts.
5. Design: Signals that controlled valve is in other than fully open position.
6. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

## 2.8 PRESSURE GAUGES

A. Manufacturers:

1. AGF Manufacturing, Inc.
2. AMETEK, Inc.
3. Ashcroft Inc.

4. Brecco Corporation.
5. WIKA Instrument Corporation.
6. Approved equivalent.

B. Standard: UL 393.

C. Dial Size: 3-1/2- to 4-1/2-inch diameter.

D. Pressure Gauge Range: 0- to 250-psig minimum.

E. Label: Include "WATER" label on dial face.

## PART 3 - EXECUTION

### 3.1 PREPARATION

A. Perform fire-hydrant flow test according to NFPA 13 and NFPA 291. Use results for system design calculations required in "Quality Assurance" Article.

B. Report test results promptly and in writing.

### 3.2 PIPING INSTALLATION

A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated on approved working plans.

1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Engineer before deviating from approved working plans.
2. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

B. Piping Standard: Comply with NFPA 13 requirements for installation of sprinkler piping.

C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.

D. Install unions adjacent to each valve in pipes NPS 2 and smaller.

E. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.

F. Install "Inspector's Test Connections" in sprinkler system piping, complete with test and drain valve, and sized and located according to NFPA 13.

G. Install sprinkler piping with drains for complete system drainage.

H. Install automatic (ball drip) drain valve at each check valve for fire-department connection, to drain piping between fire-department connection and check valve. Install drain piping to and spill over floor drain or to outside building.

I. Install alarm devices in piping systems.

J. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.

K. Install pressure gauges on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Include pressure gauges with connection not less than NPS 1/4 and with soft-metal seated globe valve, arranged for draining pipe between gauge and valve. Install gauges to permit removal and install where they are not subject to freezing.

L. Fill sprinkler system piping with water.

M. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 210517 "Sleeves and Sleeve Seals for Fire-Suppression Piping."

N. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 210517 "Sleeves and Sleeve Seals for Fire-Suppression Piping."

O. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 210518 "Escutcheons for Fire-Suppression Piping."

## 3.3 JOINT CONSTRUCTION

A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.

B. Install unions adjacent to each valve in pipes NPS 2 and smaller.

C. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.

D. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

E. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.

F. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.

G. Threaded Joints: Thread pipe with tapered pipe threads according to 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.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

H. Welded Joints: Construct joints according to AWS D10.12, using qualified processes and welding operators according to "Quality Assurance" Article.

1. Shop weld pipe joints where welded piping is indicated. Do not use welded joints for galvanized-steel pipe.

I. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints.

J. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.

## 3.4 VALVE AND SPECIALTIES INSTALLATION

A. Install listed fire-protection valves, trim and drain valves, specialty valves and trim, controls, and specialties according to NFPA 13 and authorities having jurisdiction.

B. Install listed fire-protection shutoff valves supervised open, located to control sources of water supply except from fire-department connections. Install supervised-closed valves in backflow preventer test header piping. Install permanent identification signs indicating portion of system controlled by each valve.

C. Air Vent:

1. Provide at least one air vent at high point in each wet-pipe sprinkler system in accordance with NFPA 13 requirements. Connect vent into top of fire sprinkler piping.
2. Provide dielectric union for dissimilar metals, ball valve, and strainer upstream of automatic air vent.
3. Pipe from outlet of air vent to drain where required by air vent manufacturer.

D. Spare Sprinkler Head Cabinet: Secure to building wall or other permanent structure in vicinity of main valve controlling sprinkler system, unless otherwise directed.

## 3.5 SPRINKLER INSTALLATION

A. Install sprinklers in suspended ceilings in center of narrow dimension of acoustical ceiling panels.

B. Install dry-type sprinklers with water supply from heated space. Do not install pendent or sidewall wet-type sprinklers in areas subject to freezing.

C. Install sprinklers into flexible, sprinkler hose fittings, and install hose into bracket on ceiling grid.

## 3.6 IDENTIFICATION

A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.

## 3.7 FIELD QUALITY CONTROL

A. Perform the following tests and inspections with the assistance of a Company Service Advisor:

1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
3. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
4. Energize circuits to electrical equipment and devices.
5. Coordinate with fire-alarm tests. Operate as required.
6. Coordinate with fire-pump tests. Operate as required.
7. Verify that equipment hose threads are same as local fire department equipment.

B. Sprinkler piping system will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

## 3.8 CLEANING

A. Clean dirt and debris from sprinklers.

B. Only sprinklers with their original factory finish are acceptable. Remove and replace any sprinklers that are painted or have any other finish than their original factory finish.

## 3.9 DEMONSTRATION

A. Train Facility’s maintenance personnel to adjust, operate, and maintain specialty valves.

## 3.10 PIPING SCHEDULE

A. Piping between Fire Department Connections and Check Valves: Galvanized, standard-weight steel pipe with cut-grooved ends, grooved-end fittings, grooved-end-pipe couplings, and grooved joints.

B. Sprinkler specialty fittings may be used, downstream of control valves, instead of specified fittings.

C. Standard-pressure, wet-pipe sprinkler system, NPS 2 and smaller, shall be one of the following:

1. Schedule 40 black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.

2. Schedule 40 black-steel pipe with cut- or roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

D. Standard-pressure, wet-pipe sprinkler system, NPS 2-1/2 and larger, shall be the following:
1. Schedule 40, black-steel pipe with cut- or roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

## 3.11 SPRINKLER SCHEDULE

A. Use sprinkler types in subparagraphs below for the following applications:

1. Rooms without Ceilings: Upright sprinklers as indicated on drawings.
2. Rooms with Suspended Ceilings: Concealed sprinklers as indicated on drawings.
3. Spaces Subject to Freezing: Upright, pendent, dry sprinklers; and sidewall, dry sprinklers as indicated on drawings.

END OF SECTION 211313

SECTION 220513 - COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general requirements for single-phase and polyphase, general-purpose, horizontal, small and medium, squirrel-cage induction motors for use on alternating-current power systems up to 600 V and installed at equipment manufacturer's factory or shipped separately by equipment manufacturer for field installation.

1.3 COORDINATION

A. Coordinate features of motors, installed units, and accessory devices to be compatible with the following:

1. Motor controllers.
2. Torque, speed, and horsepower requirements of the load.
3. Ratings and characteristics of supply circuit and required control sequence.
4. Ambient and environmental conditions of installation location.

PART 2 - PRODUCTS

2.1 GENERAL MOTOR REQUIREMENTS

A. Comply with NEMA MG 1 unless otherwise indicated.

B. UL 508 – Electric Industrial Control Equipment.

C. NEMA ICS - General Standards for Industrial Controls and Systems

D. IEEE 519 – Recommended Practices and Requirements for Harmonic Control in Electric Power Systems

## 2.2 MOTOR CHARACTERISTICS

A. Duty: Continuous duty at ambient temperature of 40 deg C and at altitude of 3300 feet above sea level.

B. Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.

## 2.3 POLYPHASE MOTORS

A. Description: NEMA MG 1, Design B, medium induction motor.

B. Efficiency: Premium efficient, as defined in NEMA MG 1.

C. Service Factor: 1.15.

D. Multispeed Motors: Variable torque.

1. For motors with 2:1 speed ratio, consequent pole, single winding.
2. For motors with other than 2:1 speed ratio, separate winding for each speed.

E. Multispeed Motors: Separate winding for each speed.

F. Rotor: Random-wound, squirrel cage.

G. Bearings: Regreasable, shielded, antifriction ball bearings suitable for radial and thrust loading.

H. Temperature Rise: Match insulation rating.

I. Insulation: Class F.

J. Code Letter Designation:

1. Motors 15 HP and Larger: NEMA starting Code F or Code G.
2. Motors Smaller Than 15 HP: Manufacturer's standard starting characteristic.

K. Enclosure Material: Cast iron for motor frame sizes 324T and larger; rolled steel for motor frame sizes smaller than 324T.

## 2.4 ADDITIONAL REQUIREMENTS FOR POLYPHASE MOTORS

A. Motors Used with Variable-Frequency Controllers: Ratings, characteristics, and features coordinated with and approved by controller manufacturer.

1. Windings: Copper magnet wire with moisture-resistant insulation varnish, designed and tested to resist transient spikes, high frequencies, and short time rise pulses produced by pulse-width-modulated inverters.
2. Inverter-Duty Motors: Class F temperature rise; Class H insulation.

3. Thermal Protection: Comply with NEMA MG 1 requirements for thermally protected motors.

## 2.5 SINGLE-PHASE MOTORS

A. Motors larger than 1/20 hp shall be one of the following, to suit starting torque and requirements of specific motor application:

1. Permanent-split capacitor.
2. Split phase.
3. Capacitor start, inductor run.
4. Capacitor start, capacitor run.

B. Multispeed Motors: Variable-torque, permanent-split-capacitor type.

C. Bearings: Prelubricated, antifriction ball bearings or sleeve bearings suitable for radial and thrust loading.

D. Motors 1/20 HP and Smaller: Shaded-pole type.

E. Thermal Protection: Internal protection to automatically open power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal-protection device shall automatically reset when motor temperature returns to normal range.

## PART 3 - EXECUTION (Not Applicable)

END OF SECTION 220513

SECTION 220518 - ESCUTCHEONS FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Escutcheons.
2. Floor plates.

1.3 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, or removed and reinstalled.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. BrassCraft Manufacturing Co.; a Masco company.
2. Dearborn Brass.
3. Jones Stephens Corp.
4. Keeney Manufacturing Company (The).

5. Mid-America Fittings, Inc.
6. ProFlo; a Ferguson Enterprises, Inc. brand.
7. Or equal.

2.2 ESCUTCHEONS

A. One-Piece, Steel Type: With polished, chrome-plated finish and setscrew fastener.

B. One-Piece, Cast-Brass Type: With polished, chrome-plated finish and setscrew fastener.

C. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped steel with polished, chrome-plated finish and spring-clip fasteners.

D. One-Piece, Stamped-Steel Type: With polished, chrome-plated finish and spring-clip fasteners.

E. Split-Plate, Stamped-Steel Type: With polished, chrome-plated finish; concealed and exposed-rivet hinge; and spring-clip fasteners.

2.3 FLOOR PLATES

A. Split Floor Plates: Cast brass with concealed hinge.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.

B. Install escutcheons with ID to closely fit around pipe, tube, and insulation of insulated piping and with OD that completely covers opening.

1. Escutcheons for New Piping and Relocated Existing Piping:

a. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep pattern.
b. Chrome-Plated Piping: One-piece steel with polished, chrome-plated finish.
c. Insulated Piping: One-piece steel with polished, chrome-plated finish.
d. Insulated Piping: One-piece stainless steel with polished stainless-steel finish.
e. Insulated Piping: One-piece cast brass with polished, chrome-plated finish.
f. Insulated Piping: One-piece stamped steel or split-plate, stamped steel with concealed hinge or split-plate, stamped steel with exposed-rivet hinge with polished, chrome-plated finish.
g. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece steel with polished, chrome-plated finish.
h. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece stamped steel, or split-plate, stamped steel with concealed hinge, or split-plate, stamped steel with exposed-rivet hinge with polished, chrome-plated finish.
i. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece steel with polished, chrome-plated finish.

j. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece cast brass with polished, chrome-plated finish.
k. Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece stamped steel, or split-plate, stamped steel with concealed hinge, or split-plate, stamped steel with exposed-rivet hinge with polished, chrome-plated finish.
l. Bare Piping in Unfinished Service Spaces: One-piece steel with polished, chrome-plated finish.
m. Bare Piping in Unfinished Service Spaces: One-piece cast brass with polished, chrome-plated finish.
n. Bare Piping in Unfinished Service Spaces: One-piece stamped steel, or split-plate, stamped steel with concealed hinge, or split-plate, stamped steel with exposed-rivet hinge with polished, chrome-plated finish.
o. Bare Piping in Equipment Rooms: One-piece steel with polished, chrome-plated finish.
p. Bare Piping in Equipment Rooms: One-piece cast brass with polished, chrome-plated finish.
q. Bare Piping in Equipment Rooms: One-piece stamped steel, or split-plate, stamped steel with concealed hinge, or split-plate, stamped steel with exposed-rivet hinge with polished, chrome-plated finish.

2. Escutcheons for Existing Piping to Remain:

a. Chrome-Plated Piping: Split-casting, stamped steel with concealed or exposed-rivet hinge with polished, chrome-plated finish.
b. Insulated Piping: Split-plate, stamped steel with concealed or exposed-rivet hinge with polished, chrome-plated finish
c. Bare Piping at Wall and Floor Penetrations in Finished Spaces: Split-plate, stamped steel with concealed or exposed-rivet hinge with polished, chrome-plated finish.
d. Bare Piping at Ceiling Penetrations in Finished Spaces: Split-plate, stamped steel with concealed or exposed-rivet hinge with polished, chrome-plated finish.
e. Bare Piping in Unfinished Service Spaces: Split-plate, stamped steel with concealed or exposed-rivet hinge with polished, chrome-plated finish.
f. Bare Piping in Equipment Rooms: Split-plate, stamped steel with concealed or exposed-rivet hinge with polished, chrome-plated finish.

C. Install floor plates for piping penetrations of equipment-room floors.

D. Install floor plates with ID to closely fit around pipe, tube, and insulation of piping and with OD that completely covers opening.

1. New Piping and Relocated Existing Piping: One-piece, floor plate.
2. Existing Piping: Split floor plate.

## 3.2 FIELD QUALITY CONTROL

A. Using new materials, replace broken and damaged escutcheons and floor plates.

END OF SECTION 220518

SECTION 220523.12 - BALL VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Brass ball valves.
2. Bronze ball valves.
3. Steel ball valves.
4. Iron ball valves.

1.3 DEFINITIONS

A. CWP: Cold working pressure.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of valve.

1. Certification that products comply with NSF 61 and NSF 372.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, and soldered ends.
3. Set ball valves open to minimize exposure of functional surfaces.

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.

C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use operating handles or stems as lifting or rigging points.

## PART 2 - PRODUCTS

### 2.1 GENERAL REQUIREMENTS FOR VALVES

A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.

B. ASME Compliance:

1. ASME B1.20.1 for threads for threaded end valves.
2. ASME B16.1 for flanges on iron valves.
3. ASME B16.5 for flanges on steel valves.
4. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
5. ASME B16.18 for solder-joint connections.
6. ASME B31.9 for building services piping valves.

C. NSF Compliance: NSF 61 and NSF 372 for valve materials for potable-water service.

D. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted.

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

F. Valve Sizes: Same as upstream piping unless otherwise indicated.

G. Valve Actuator Types:
1. Handlever: For quarter-turn valves smaller than 4 inch.

H. Valves in Insulated Piping:

1. Include 2-inch stem extensions.
2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation.
3. Memory stops that are fully adjustable after insulation is applied.

2.2 BRASS BALL VALVES

A. Brass Ball Valves, One-Piece:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 400 psig.
c. Body Design: One piece.
d. Body Material: Forged brass or bronze.
e. Ends: Threaded and soldered.
f. Seats: PTFE.
g. Stem: Brass or stainless steel.
h. Ball: Chrome-plated brass or stainless steel.
i. Port: Reduced.

B. Brass Ball Valves, Two-Piece with Full Port and Brass Trim, Threaded or Soldered Ends:

1. Description:

a. Standard: MSS SP-110 or MSS SP-145.
b. CWP Rating: 600 psig.
c. Body Design: Two piece.
d. Body Material: Forged brass.
e. Ends: Threaded and soldered.
f. Seats: PTFE.
g. Stem: Brass.
h. Ball: Chrome-plated brass.
i. Port: Full.

C. Brass Ball Valves, Two-Piece with Full Port and Brass Trim, Press Ends:

1. Description:

a. Standard: MSS SP-110 or MSS SP-145.
b. CWP Rating: Minimum 200 psig.
c. Body Design: Two piece.
d. Body Material: Forged brass.
e. Ends: Press.
f. Press Ends Connections Rating: Minimum 200 psig.
g. Seats: PTFE or RPTFE.
h. Stem: Brass.
i. Ball: Chrome-plated brass.
j. Port: Full.
k. O-Ring Seal: Buna-N or EPDM.

D. Brass Ball Valves, Two-Piece with Full Port and Stainless-Steel Trim, Threaded or Soldered Ends:

1. Description:

a. Standard: MSS SP-110 or MSS SP-145.
b. CWP Rating: 600 psig.
c. Body Design: Two piece.
d. Body Material: Forged brass.
e. Ends: Threaded and soldered.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Full.

E. Brass Ball Valves, Two-Piece with Full Port and Stainless-Steel Trim, Press Ends:

1. Description:

a. Standard: MSS SP-110 or MSS SP-145.
b. CWP Rating: Minimum 200 psig.
c. Body Design: Two piece.
d. Body Material: Forged brass.
e. Ends: Press.
f. Press Ends Connections Rating: Minimum 200 psig.
g. Seats: PTFE or RPTFE.
h. Stem: Stainless steel.
i. Ball: Stainless steel, vented.
j. Port: Full.
k. O-Ring Seal: Buna-N or EPDM.

F. Brass Ball Valves, Two-Piece with Regular Port and Brass Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Two piece.
d. Body Material: Forged brass.
e. Ends: Threaded and soldered.
f. Seats: PTFE.
g. Stem: Brass.
h. Ball: Chrome-plated brass.
i. Port: Regular.

G. Brass Ball Valves, Two-Piece with Regular Port and Stainless-Steel Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.

c. Body Design: Two piece.
d. Body Material: Brass or bronze.
e. Ends: Threaded and soldered.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Regular.

H. Brass Ball Valves, Three-Piece with Full Port and Brass Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Three piece.
d. Body Material: Forged brass.
e. Ends: Threaded and soldered.
f. Seats: PTFE.
g. Stem: Brass.
h. Ball: Chrome-plated brass.
i. Port: Full.

I. Brass Ball Valves, Three-Piece with Full Port and Stainless-Steel Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Three piece.
d. Body Material: Forged brass.
e. Ends: Threaded and soldered.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Full.

## 2.3 BRONZE BALL VALVES

A. Bronze Ball Valves, One-Piece with Bronze Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 400 psig.
c. Body Design: One piece.
d. Body Material: Bronze.
e. Ends: Threaded.
f. Seats: PTFE.
g. Stem: Bronze.
h. Ball: Chrome-plated brass.

i. Port: Reduced.

B. Bronze Ball Valves, One-Piece with Stainless-Steel Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: One piece.
d. Body Material: Bronze.
e. Ends: Threaded.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Reduced.

C. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim, Threaded or Soldered Ends:

1. Description:

a. Standard: MSS SP-110 or MSS-145.
b. CWP Rating: 600 psig.
c. Body Design: Two piece.
d. Body Material: Bronze.
e. Ends: Threaded and soldered.
f. Seats: PTFE.
g. Stem: Bronze or brass.
h. Ball: Chrome-plated brass.
i. Port: Full.

D. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim, Press Ends:

1. Description:

a. Standard: MSS SP-110 or MSS-145.
b. CWP Rating: Minimum 200 psig.
c. Body Design: Two piece.
d. Body Material: Bronze.
e. Ends: Press.
f. Press Ends Connections Rating: Minimum 200 psig.
g. Seats: PTFE or RTPFE.
h. Stem: Bronze or brass.
i. Ball: Chrome-plated brass.
j. Port: Full.
k. O-Ring Seal: EPDM or Buna-N.

E. Bronze Ball Valves, Two-Piece with Full Port and Stainless-Steel Trim:

1. Description:

a. Standard: MSS SP-110 or MSS-145.
b. CWP Rating: 600 psig.
c. Body Design: Two piece.
d. Body Material: Bronze.
e. Ends: Threaded or soldered.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Full.

F. Bronze Ball Valves, Two-Piece with Regular Port and Bronze or Brass Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Two piece.
d. Body Material: Bronze.
e. Ends: Threaded.
f. Seats: PTFE.
g. Stem: Bronze or brass.
h. Ball: Chrome-plated brass.
i. Port: Regular.

G. Bronze Ball Valves, Two-Piece with Regular Port and Stainless-Steel Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Two piece.
d. Body Material: Bronze.
e. Ends: Threaded.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Regular.

H. Bronze Ball Valves, Three-Piece with Full Port and Bronze or Brass Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Three piece.
d. Body Material: Bronze.
e. Ends: Threaded.

f. Seats: PTFE.
g. Stem: Bronze or brass.
h. Ball: Chrome-plated brass.
i. Port: Full.

I. Bronze Ball Valves, Three-Piece with Full Port and Stainless-Steel Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Three piece.
d. Body Material: Bronze.
e. Ends: Threaded.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Full.

J. Bronze Ball Valves, Three-Piece with Regular Port and Bronze Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Three piece
d. Body Material: Bronze
e. Ends: Threaded or soldered.
f. Seats: PTFE.
g. Stem: Bronze.
h. Ball: Chrome-plated brass.
i. Port: Regular.

K. Bronze Ball Valves, Three-Piece with Regular Port and Stainless-Steel Trim:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Three piece.
d. Body Material: Bronze.
e. Ends: Threaded or soldered.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Regular.

L. Bronze Ball Valves, Two-Piece, Safety-Exhaust:

1. Description:

a. Standard: MSS SP-110.
b. CWP Rating: 600 psig.
c. Body Design: Two piece.
d. Body Material: Bronze, ASTM B584, Alloy C844.
e. Ends: Threaded.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Chrome-plated brass, with exhaust vent opening for pneumatic applications.
i. Port: Full.

## 2.4 STEEL BALL VALVES

A. Steel Ball Valves with Full Port, Class 150:

1. Description:

a. Standard: MSS SP-72.
b. CWP Rating: 285 psig.
c. Body Design: Split body.
d. Body Material: Carbon steel, ASTM A216, Type WCB.
e. Ends: Flanged or threaded.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Full.

B. Steel Ball Valves with Regular Port, Class 150:

1. Description:

a. Standard: MSS SP-72.
b. CWP Rating: 285 psig.
c. Body Design: Uni-body.
d. Body Material: Carbon steel, ASTM A216, Type WCB.
e. Ends: Flanged or threaded.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel, vented.
i. Port: Regular.

## 2.5 IRON BALL VALVES

A. Iron Ball Valves, Class 125:

1. Description:

a. Standard: MSS SP-72.
b. CWP Rating: 200 psig.
c. Body Design: Split body.
d. Body Material: ASTM A126, gray iron.
e. Ends: Flanged or threaded.
f. Seats: PTFE.
g. Stem: Stainless steel.
h. Ball: Stainless steel.
i. Port: Full.

# 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. Do not attempt to repair defective valves; replace with new valves.

## 3.2 VALVE INSTALLATION

A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.

B. Locate valves for easy access and provide separate support where necessary.

C. Install valves in horizontal piping with stem at or above center of pipe.

D. Install valves in position to allow full stem movement.

E. Install valve tags.

## 3.3 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. For Copper Tubing, NPS 2 and Smaller: Threaded ends except where solder-joint valve-end option or press-end option is indicated in valve schedules below.
2. For Copper Tubing, NPS 2-1/2 to NPS 4: Flanged ends except where threaded valve-end option is indicated in valve schedules below.
3. For Copper Tubing, NPS 5 and Larger: Flanged ends.
4. For Steel Piping, NPS 2 and Smaller: Threaded ends.
5. For Steel Piping, NPS 2-1/2 to NPS 4: Flanged ends except where threaded valve-end option is indicated in valve schedules below.
6. For Steel Piping, 5 inch and Larger: Flanged ends.

## 3.4 LOW-PRESSURE, COMPRESSED-AIR VALVE SCHEDULE 150 PSIG OR LESS

A. Pipe 2 inch and Smaller:

1. Bronze and Brass Valves: May be provided with solder-joint ends instead of threaded ends. Use threaded ends at equipment connections.
2. Brass ball valves, two-piece with full port and stainless steel trim.
3. Bronze ball valves, two-piece with full port and stainless steel trim.
4. Brass ball valves, three-piece with full port and stainless steel trim.
5. Bronze ball valve, three-piece with full port and stainless steel trim.

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

1. Steel and Iron Valves, 2-1/2 inch to 4 inch: May be provided with threaded ends instead of flanged ends.
2. Steel ball valves, Class 150 with full port.
3. Iron ball valves, Class 150.

## 3.5 HIGH-PRESSURE, COMPRESSED-AIR VALVE SCHEDULE 150 TO 200 PSIG

A. Pipe 2 inch and Smaller:

1. Bronze and Brass Valves: May be provided with solder joint ends instead of threaded ends. Use threaded ends at equipment connections.
2. Brass ball valves, two-piece with full port and stainless steel trim.
3. Bronze ball valves, two-piece with full port and stainless steel trim.
4. Brass ball valves, three-piece with full port and stainless steel trim.
5. Bronze ball valves, three-piece with full port and stainless steel trim.

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

1. Steel and Iron Valves, 2-1/2 to 4 inch: May be provided with threaded ends instead of flanged ends.
2. Steel ball valves, Class 150 with full port.
3. Iron ball valves, Class 150.

## 3.6 DOMESTIC HOT- AND COLD-WATER VALVE SCHEDULE

A. Pipe 2 inch and Smaller:

1. Brass ball valves, two-piece with full port and brass trim. Provide with threaded, solder, or press connection joint ends. Use threaded ends at equipment connections.
2. Brass ball valves, two-piece with full port and stainless steel trim. Provide with threaded, solder, or press connection joint ends. Use threaded ends at equipment connections.
3. Brass ball valves, two-piece with regular port and brass trim. Provide with threaded, solder, or press connection joint ends. Use threaded ends at equipment connections.
4. Brass ball valves, two-piece with regular port and stainless steel trim. Provide with threaded, solder, or press connection joint ends. Use threaded ends at equipment connections.
5. Bronze ball valves, two-piece with full port and stainless steel trim. Provide with threaded, solder, or press connection joint ends. Use threaded ends at equipment connections.
6. Bronze ball valves, two-piece with full port and bronze or brass trim. Provide with threaded, solder, or press connection joint ends. Use threaded ends at equipment connections.
7. Brass ball valves, three-piece with full port and stainless steel trim. Provide with threaded, or soldered ends. Use threaded ends at equipment connections.
8. Bronze ball valves, three-piece with full port and stainless steel trim. Provide with threaded, or soldered ends. Use threaded ends at equipment connections.

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

1. Steel and Iron Valves, 2-1/2 inch to 4 inch: May be provided with threaded ends instead of flanged ends.
2. Steel ball valves, Class 150 with full port.
3. Iron ball valves, Class 150.

END OF SECTION 220523.12

SECTION 220523.14 - CHECK VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Bronze lift check valves.
2. Bronze swing check valves.
3. Bronze swing check valves, press ends.
4. Iron swing check valves.
5. Iron swing check valves with closure control.
6. Iron, grooved-end swing check valves.
7. Iron, center-guided check valves.
8. Iron, plate-type check valves.

1.3 DEFINITIONS

A. CWP: Cold working pressure.

B. EPDM: Ethylene propylene-diene terpolymer rubber.

C. NBR: Acrylonitrile-butadiene, Buna-N, or nitrile rubber.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are submitted and tabbed (for combined submittals).

D. Product Data: For each type of valve.

1. Certification that products comply with NSF 61 and NSF 372.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, grooves, and weld ends.
3. Set 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.

C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR VALVES

A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.

B. ASME Compliance:

1. ASME B1.20.1 for threads for threaded end valves.
2. ASME B16.1 for flanges on iron valves.
3. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
4. ASME B16.18 for solder joint.
5. ASME B31.9 for building services piping valves.

C. AWWA Compliance: Comply with AWWA C606 for grooved-end connections.

D. Drinking Water System Components - Health Effects and Drinking Water System Components - Lead Content Compliance: NSF 61 and NSF 372.

E. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted.

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

G. Valve Sizes: Same as upstream piping unless otherwise indicated.

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

## 2.2 BRONZE LIFT CHECK VALVES

A. Section not applicable to this project.

## 2.3 BRONZE SWING CHECK VALVES

A. Bronze Swing Check Valves with Bronze Disc, Class 125:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
    b. Crane Valves; a Crane Co. brand.
    c. Milwaukee Valve Company.
    d. NIBCO INC.
    e. Approved equivalent.

2. Description:

    a. Standard: MSS SP-80, Type 3.
    b. CWP Rating: 200 psig.
    c. Body Design: Horizontal flow.
    d. Body Material: ASTM B62, bronze.
    e. Ends: Threaded or soldered. See valve schedule articles.
    f. Disc: Bronze.

B. Bronze Swing Check Valves, Press Ends:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
    b. Crane Valves; a Crane Co. brand.
    c. Milwaukee Valve Company.
    d. NIBCO INC.
    e. Approved equivalent.

2. Description:

    a. Standard: MSS SP-80 and MSS SP-139.
    b. CWP Rating: Minimum 200 psig.
    c. Body Design: Horizontal flow.
    d. Body Material: ASTM B584, bronze.
    e. Ends: Press.
    f. Press Ends Connection Rating: Minimum 200 psig
    g. Disc: Brass or bronze.

2.4 IRON SWING CHECK VALVES

A. Iron Swing Check Valves with Metal Seats, Class 125:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
b. Crane Valves; a Crane Co. brand.
c. Milwaukee Valve Company.
d. Victaulic Company.
e. Approved equivalent.

2. Description:

a. Standard: MSS SP-71, Type I.
b. CWP Rating: 200 psig.
c. Body Design: Clear or full waterway.
d. Body Material: ASTM A126, gray iron with bolted bonnet.
e. Ends: Flanged or threaded. See valve schedule articles.
f. Trim: Bronze.
g. Gasket: Asbestos free.

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. Do not attempt to repair defective valves; replace with new valves.

3.2 VALVE INSTALLATION

A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.

B. Locate valves for easy access and provide separate support where necessary.

C. Install valves in horizontal piping with stem at or above center of pipe.

D. Install valves in position to allow full stem movement.

E. Check Valves: Install check valves for proper direction of flow.

1. Swing Check Valves: In horizontal position with hinge pin level.

F. Install valve tags.

## 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 valve applications are not indicated, use the following:

1. Pump-Discharge Check Valves:

a. 2 inch and Smaller: Bronze swing check valves with bronze or nonmetallic disc.
b. 2-1/2 inch and Larger for Domestic Water: Iron swing check valves with lever and weight or spring; or iron, center-guided, metal-seat or resilient-seat check valves.
c. 2-1/2 inch and Larger for Sanitary Waste and Storm Drainage: Iron swing check valves with lever and weight or spring.

B. If valves with specified CWP ratings are unavailable, the same types of valves with higher CWP ratings may be substituted.

C. End Connections:

1. For Copper Tubing, 2 inch and Smaller: Threaded or soldered or press-ends.
2. For Copper Tubing, 2-1/2 inch to 4 inch: Flanged or threaded.
3. For Copper Tubing, 5 inch and Larger: Flanged.
4. For Steel Piping, 2 inch and Smaller: Threaded.
5. For Steel Piping, 2-1/2 inch to 4 inch: Flanged or threaded.
6. For Steel Piping, 5 inch and Larger: Flanged.
7. For Grooved-End Copper Tubing and Steel Piping: Grooved.

## 3.5 DOMESTIC HOT- AND COLD-WATER VALVE SCHEDULE

A. Pipe 2 inch and Smaller:

1. Bronze swing check valves with bronze disc, Class 125, with soldered or threaded end connections.

2. Bronze swing check valves with press-end connections.

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

1. Iron swing check valves with metal seats, Class 125, with threaded or flanged end connections.
2. Iron, grooved-end swing check valves, 300 CWP.

END OF SECTION 220523.14

SECTION 220523.15 - GATE VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Bronze gate valves.
2. Iron gate valves.

1.3 DEFINITIONS

A. CWP: Cold working pressure.

B. NRS: Nonrising stem.

C. OS&Y: Outside screw and yoke.

D. RS: Rising stem.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

1. Certification that products comply with NSF 61 and NSF 372.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, grooves, and weld ends.

3. Set gate valves closed to prevent rattling.

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.

C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

## PART 2 - PRODUCTS

### 2.1 GENERAL REQUIREMENTS FOR VALVES

A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.

B. ASME Compliance:

1. ASME B1.20.1 for threads for threaded end valves.
2. ASME B16.1 for flanges on iron valves.
3. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
4. ASME B16.18 for solder joint.
5. ASME B31.9 for building services piping valves.

C. NSF Compliance: NSF 61 and NSP 372 for valve materials for potable-water service.

D. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted.

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

F. Valve Sizes: Same as upstream piping unless otherwise indicated.

G. RS Valves in Insulated Piping: With 2-inch stem extensions.

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

### 2.2 BRONZE GATE VALVES

A. Bronze Gate Valves, NRS, Class 125:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
b. Crane Valves; a Crane Co. brand.
c. Jenkins Valves; a Crane Co. brand.
d. Milwaukee Valve Company.
e. Stockham; a Crane Co. brand.
f. WATTS.
g. Oe equal.

2. Description:

a. Standard: MSS SP-80, Type 1.
b. CWP Rating: 200 psig.
c. Body Material: Bronze with integral seat and screw-in bonnet.
d. Ends: Threaded or solder joint.
e. Stem: Bronze.
f. Disc: Solid wedge; bronze.
g. Packing: Asbestos free.
h. Handwheel: Malleable iron, bronze, or aluminum.

B. Bronze Gate Valves, RS, Class 125:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
b. Crane Valves; a Crane Co. brand.
c. Hammond Valve.
d. Jenkins Valves; a Crane Co. brand.
e. Milwaukee Valve Company.
f. NIBCO INC.
g. Stockham; a Crane Co. brand.
h. WATTS.
i. Or equal.

2. Description:

a. Standard: MSS SP-80, Type 2.
b. CWP Rating: 200 psig.
c. Body Material: Bronze with integral seat and screw-in bonnet.
d. Ends: Threaded or solder joint.
e. Stem: Bronze.
f. Disc: Solid wedge; bronze.
g. Packing: Asbestos free.
h. Handwheel: Malleable iron, bronze, or aluminum.

C. Bronze Gate Valves, Press Ends:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
b. Hammond Valve.
c. Milwaukee Valve Company.
d. NIBCO INC.
e. Or equal.

2. Description:

a. Standard: MSS SP-80 and MSS SP-139.
b. CWP Rating: Minimum 200 psig.
c. Body Material: Bronze with integral seat and union-ring bonnet.
d. Ends: Press.
e. Press Ends Connection Rating: Minimum 200 psig.
f. Stem: Brass or bronze rising.
g. Disc: Solid wedge; bronze.
h. Packing: Graphite.
i. Port: Full.
j. Handwheel: Malleable iron, bronze, or aluminum.

## 2.3 IRON GATE VALVES

A. Iron Gate Valves, NRS, Class 150:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
b. Crane Valves; a Crane Co. brand.
c. Jenkins Valves; a Crane Co. brand.
d. Or equal.

2. Description:

a. Standard: MSS SP-70, Type I.
b. CWP Rating: 200 psig.
c. Body Material: Gray iron with bolted bonnet.
d. Ends: Flanged.
e. Trim: Bronze.
f. Disc: Solid wedge.
g. Packing and Gasket: Asbestos free.

B. Iron Gate Valves, OS&Y, Class 125:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
b. Crane Valves; a Crane Co. brand.

c. Hammond Valve.
d. Milwaukee Valve Company.
e. WATTS.
f. Or equal.

2. Description:

a. Standard: MSS SP-70, Type I.
b. CWP Rating: 200 psig.
c. Body Material: Gray iron with bolted bonnet.
d. Ends: Flanged.
e. Trim: Bronze.
f. Disc: Solid wedge.
g. Packing and Gasket: Asbestos free.

## 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. Do not attempt to repair defective valves; replace with new valves.

### 3.2 VALVE INSTALLATION

A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.

B. Locate valves for easy access and provide separate support where necessary.

C. Install valves in horizontal piping with stem at or above center of pipe.

D. Install valves in position to allow full stem movement.

E. Install valve tags.

## 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. Use gate valves for shutoff service only.

B. If valves with specified CWP ratings are unavailable, the same types of valves with higher CWP ratings may be substituted.

C. For Grooved-End Copper Tubing and Steel Piping: Valve ends may be grooved.

## 3.5 LOW-PRESSURE, COMPRESSED-AIR VALVE SCHEDULE (150 PSIG OR LESS)

A. Section not applicable to this project

## 3.6 HIGH-PRESSURE, COMPRESSED-AIR VALVE SCHEDULE (150 TO 200 PSIG)

A. Section not applicable to this project

## 3.7 DOMESTIC HOT- AND COLD-WATER VALVE SCHEDULE

A. Pipe 2 inch and Smaller:

1. Bronze gate valves, RS, Class 125 with soldered or threaded ends.
2. Bronze gate valves, press ends.

B. Pipe 2-1/2 inch and Larger: Iron gate valves, OS&Y, Class 125 with flanged ends.

END OF SECTION 220523.15

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Metal pipe hangers and supports.
2. Trapeze pipe hangers.
3. Metal framing systems.
4. Thermal hanger-shield inserts.
5. Fastener systems.
6. Pipe stands.
7. Pipe-positioning systems.
8. Equipment supports.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for structural-steel shapes and plates for trapeze hangers for pipe and equipment supports.
2. Section 220516 "Expansion Fittings and Loops for Plumbing Piping" for pipe guides and anchors.
3. Section 220548.13 "Vibration Controls for Plumbing Piping and Equipment" for vibration isolation devices.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

E. Shop Drawings: Signed and sealed by a qualified professional Director’s Representative. Show fabrication and installation details and include calculations for the following:

1. Trapeze pipe hangers.
2. Metal framing systems.
3. Fiberglass strut systems.
4. Pipe stands.
5. Equipment supports.

F. Delegated-Design Submittal: For trapeze hangers indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional Director's Representative responsible for their preparation.

1. Detail fabrication and assembly of trapeze hangers.
2. Include design calculations for designing trapeze hangers.

G. Welding certificates.

## 1.4 QUALITY ASSURANCE

A. Structural-Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1 "Structural Welding Code – Steel".

B. Pipe Welding Qualifications: Qualify procedures and operators according to 2015 ASME Boiler and Pressure Vessel Code, Section IX.

# PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to 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. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
3. Design seismic-restraint hangers and supports for piping and equipment.

## 2.2 METAL PIPE HANGERS AND SUPPORTS

A. Carbon-Steel Pipe Hangers and Supports:

1. Description: MSS SP-58 "Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation", 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.

B. Copper Pipe and Tube Hangers:

1. Description: MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation”, Types 1 through 58, copper-coated-steel, factory-fabricated components.
2. Hanger Rods: Continuous-thread rod, nuts, and washer made of copper-coated steel.

## 2.3 TRAPEZE PIPE HANGERS

A. Description: MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation”, Type 59, shop- or field-fabricated pipe-support assembly, made from structural-carbon-steel shapes, with MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation” carbon-steel hanger rods, nuts, saddles, and U-bolts.

## 2.4 METAL FRAMING SYSTEMS

A. MFMA Manufacturer Metal Framing Systems:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. ABB, Electrification Business.
b. Gregory GSTRUT.
c. Rocket Rack; Robroy Industries.
d. Or equal.

2. Description: Shop- or field-fabricated pipe-support assembly, made of steel channels, accessories, fittings, and other components for supporting multiple parallel pipes.
3. Standard: Comply with MFMA-4, factory-fabricated components for field assembly.
4. Channels: Continuous slotted extruded-aluminum or carbon steel channel with inturned lips.
5. Channel Width: Selected for applicable load criteria.
6. Channel Nuts: Formed or stamped nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.
7. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.
8. Metallic Coating: Pregalvanized G90, Electroplated zinc, or Hot-dip galvanized.

## 2.5 THERMAL HANGER-SHIELD INSERTS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Buckaroos, Inc.

2. Pipe Shields Inc.
3. Rilco Manufacturing Co., Inc.
4. Or equal.

B. 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.

C. Insulation-Insert Material for Hot Piping: Water-repellent-treated, ASTM C533, Type I calcium silicate with 100-psig ASTM C552, Type II cellular glass with 100-psig or ASTM C591, Type VI, Grade 1 polyisocyanurate with 125-psig minimum compressive strength.

D. For Trapeze or Clamped Systems: Insert and shield shall cover entire circumference of pipe.

E. For Clevis or Band Hangers: Insert and shield shall cover lower 180 degrees of pipe.

F. Insert Length: Extend 2 inches beyond sheet metal shield for piping operating below ambient air temperature.

## 2.6 FASTENER SYSTEMS

A. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Hilti, Inc.
b. MKT Fastening, LLC.
c. Simpson Strong-Tie Co., Inc.
d. Or equal.

B. Mechanical-Expansion Anchors: Insert-wedge-type anchors, for use in hardened portland cement concrete, with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Cooper B-line; brand of Eaton, Electrical Sector.
b. Hilti, Inc.
c. MKT Fastening, LLC.
d. Or equal.

2. Indoor Applications: Zinc-coated steel.
3. Outdoor Applications: Stainless steel.

2.7 PIPE STANDS

A. General Requirements for Pipe Stands: Shop- or field-fabricated assemblies made of manufactured corrosion-resistant components to support roof-mounted piping.

B. Compact Pipe Stand:

1. Description: Single base unit with integral-rod roller, pipe clamps, or V-shaped cradle to support pipe, for roof installation without membrane penetration.
2. Base: Single, vulcanized rubber, molded polypropylene, or polycarbonate.
3. Hardware: Galvanized steel or polycarbonate.
4. Accessories: Protection pads.

C. Low-Profile, Single-Base, Single-Pipe Stand:

1. Description: Single base with vertical and horizontal members, and pipe support, for roof installation without membrane protection.
2. Base: Single, vulcanized rubber, molded polypropylene, or polycarbonate.
3. Vertical Members: Two galvanized-steel, continuous-thread, 1/2-inch rods.
4. Horizontal Member: Adjustable horizontal, galvanized-steel pipe support channels.
5. Pipe Supports: Strut clamps, Clevis hanger, or Swivel hanger.
6. Hardware: Galvanized steel.
7. Accessories: Protection pads.
8. Height: 12 inches above roof.

D. High-Profile, Single-Base, Single-Pipe Stand:

1. Description: Single base, vertical and horizontal members, and pipe support, for roof installation without membrane penetration.
2. Base: Single vulcanized rubber or molded polypropylene.
3. Vertical Members: Two galvanized-steel, continuous-thread, 1/2-inch rods.
4. Horizontal Member: One adjustable-height, galvanized-steel, pipe-support slotted channel or plate.
5. Pipe Supports: Clevis hanger or Swivel hanger.
6. Hardware: Galvanized steel.
7. Accessories: Protection pads, 1/2-inch, continuous-thread, galvanized-steel rod.
8. Height: 36 inches above roof.

E. High-Profile, Multiple-Pipe Stand:

1. Description: Assembly of bases, vertical and horizontal members, and pipe supports, for roof installation without membrane penetration.
2. Bases: Two or more; vulcanized rubber or molded polypropylene.
3. Vertical Members: Two or more, galvanized-steel channels.
4. Horizontal Members: One or more, adjustable-height, galvanized-steel pipe support.
5. Pipe Supports: Strut clamps, Clevis hanger, or Swivel hanger.
6. Hardware: Galvanized steel.
7. Accessories: Protection pads**,** 1/2-inch, continuous-thread rod.
8. Height: 36 inches above roof.

F. Curb-Mounted-Type Pipe Stands: Shop- or field-fabricated pipe supports made from structural-steel shapes, continuous-thread rods, and rollers, for mounting on permanent stationary roof curb.

## 2.8 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.

## 2.9 EQUIPMENT SUPPORTS

A. Description: Welded, shop- or field-fabricated equipment support made from structural-carbon-steel shapes.

## 2.10 MATERIALS

A. Aluminum: ASTM B221 “Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes”.

B. Carbon Steel: ASTM A1011 “Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process”.

C. Structural Steel: ASTM A36 “Standard Specification for Carbon Structural Steel” carbon-steel plates, shapes, and bars; black and galvanized.

D. Stainless Steel: ASTM A240 “Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications”.

E. Grout: ASTM C1107 “Standard Specification for Packaged Dry, Hydraulic-Cement Grout”, 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 requirements in Section 078413 "Penetration Firestopping" 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 shall be weight of supported components plus 200 lb.

3.2 HANGER AND SUPPORT INSTALLATION

A. Metal Pipe-Hanger Installation: Comply with MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation”. Install hangers, supports, clamps, and attachments as required to properly support piping from building structure.

B. Metal Trapeze Pipe-Hanger Installation: Comply with MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation”. 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 from ASTM A36 “Standard Specification for Carbon Structural Steel” carbon-steel shapes selected for loads being supported. Weld steel according to AWS D1.1 “Structural Welding Code – Steel”.

C. Fiberglass Pipe-Hanger Installation: Comply with applicable portions of MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation”. Install hangers and attachments as required to properly support piping from building structure.

D. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.

E. Thermal Hanger-Shield Installation: Install in pipe hanger or shield for insulated piping.

F. Fastener System Installation:

1. Install powder-actuated fasteners for use in lightweight concrete or concrete slabs less than 4 inches thick in concrete, after concrete is placed and completely cured. Use operators that are licensed by powder-actuated tool manufacturer. Install fasteners according to powder-actuated tool manufacturer's operating manual.
2. Install mechanical-expansion anchors in concrete, after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions.

G. Pipe Stand Installation:

1. Pipe Stand Types, except Curb-Mounted Type: Assemble components and mount on smooth roof surface. Do not penetrate roof membrane.
2. Curb-Mounted-Type Pipe Stands: Assemble components or fabricate pipe stand and mount on permanent, stationary roof curb. See Section 077200 "Roof Accessories" for curbs.

H. Pipe-Positioning-System Installation: Install support devices to make rigid supply and waste piping connections to each plumbing fixture.

I. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

J. Equipment Support Installation: Fabricate from welded-structural-steel shapes.

K. Install hangers and supports to allow controlled thermal and seismic 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.

L. Install lateral bracing with pipe hangers and supports to prevent swaying.

M. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, 2-1/2 inch and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

N. Load Distribution: Install hangers and supports, so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.

O. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 “Building Services Piping” for building services piping.

P. 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 “Building Services Piping” for building services piping.

2. Install MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation”, Type 39 protection saddles if insulation without vapor barrier is indicated. Fill interior voids with insulation that matches adjoining insulation.

    a. Option: Thermal hanger-shield inserts may be used. Include steel weight-distribution plate for pipe 4 inch and larger if pipe is installed on rollers.

3. Install MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation”, Type 40 protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees.

    a. Option: Thermal hanger-shield inserts may be used. Include steel weight-distribution plate for pipe 4 inch and larger if pipe is installed on rollers.

4. Shield Dimensions for Pipe: Not less than the following:

    a. 1/4 inch to 3-1/2 inch: 12 inches long and 0.048 inch thick.
    b. 4 inch: 12 inches long and 0.06 inch thick.
    c. 5 inch and 6 inch: 18 inches long and 0.06 inch thick.
    d. 8 inch to 14 inch: 24 inches long and 0.075 inch thick.
    e. 16 inch to 24 inch: 24 inches long and 0.105 inch thick.

5. Pipes 8 inch and Larger: Include wood or reinforced calcium-silicate-insulation inserts of length at least as long as protective shield.
6. Thermal Hanger Shields: Install with insulation of same thickness as piping insulation.

## 3.3 EQUIPMENT SUPPORTS

A. Fabricate structural-steel stands to suspend equipment from structure overhead or to support equipment above floor.

B. Grouting: Place grout under supports for equipment and make bearing surface smooth.

C. Provide lateral bracing, to prevent swaying, for equipment supports.

## 3.4 METAL FABRICATIONS

A. Cut, drill, and fit miscellaneous metal fabrications for trapeze pipe hangers and equipment supports.

B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.

C. Field Welding: Comply with AWS D1.1 “Structural Welding Code – Steel” 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.

## 3.5 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.

## 3.6 PAINTING

A. Touchup: 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.

1. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0 mils.

B. Touchup: Cleaning and touchup painting of field welds, bolted connections, and abraded, shop-painted areas on miscellaneous metal are specified in Section 099114 "Exterior Painting Section 099123 "Interior Painting" and Section 099600 "High-Performance Coatings"

C. Galvanized Surfaces: Clean welds, bolted “connections, and abraded areas, and apply galvanizing-repair paint to comply with ASTM A780 “Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings”.

## 3.7 HANGER AND SUPPORT SCHEDULE

A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.

B. Comply with MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation” 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 copper-plated pipe hangers and copper attachments for copper piping and tubing.

G. Use padded hangers for piping that is subject to scratching.

H. Use thermal hanger-shield inserts for insulated piping and tubing.

I. 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 1/2 inch to 30 inch.
2. Yoke-Type Pipe Clamps (MSS Type 2): For suspension of up to 1050 deg F pipes 4 inch to 24 inch, requiring up to 4 inches of insulation.
3. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes 3/4 inch to 36 inch , requiring clamp flexibility and up to 4 inches of insulation.
4. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes 1/2 inch to 24 inch if little or no insulation is required.
5. Pipe Hangers (MSS Type 5): For suspension of pipes 1/2 inch to 4 inch, to allow off-center closure for hanger installation before pipe erection.
6. Adjustable, Swivel Split- or Solid-Ring Hangers (MSS Type 6): For suspension of noninsulated, stationary pipes 3/4 inch to 8 inch.
7. Adjustable, Steel Band Hangers (MSS Type 7): For suspension of noninsulated, stationary pipes 1/2 inch to 8 inch.

8. Adjustable Band Hangers (MSS Type 9): For suspension of noninsulated, stationary pipes 1/2 inch to 8 inch.
9. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of noninsulated, stationary pipes 1/2 inch to 8 inch.
10. Split Pipe Ring with or without Turnbuckle Hangers (MSS Type 11): For suspension of noninsulated, stationary pipes 3/8 inch to 8 inch.
11. Extension Hinged or Two-Bolt Split Pipe Clamps (MSS Type 12): For suspension of noninsulated, stationary pipes 3/8 inch to 3 inch.
12. U-Bolts (MSS Type 24): For support of heavy pipes 1/2 inch to 30 inch.
13. Clips (MSS Type 26): For support of insulated pipes not subject to expansion or contraction.
14. Pipe Saddle Supports (MSS Type 36): For support of pipes 4 inch to 36 inch , with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate.
15. Pipe Stanchion Saddles (MSS Type 37): For support of pipes 4 inch to 36 inch , with steel-pipe base stanchion support and cast-iron floor flange or carbon-steel plate, and with U-bolt to retain pipe.
16. Adjustable Pipe Saddle Supports (MSS Type 38): For stanchion-type support for pipes 2-1/2 inch to 36 inch if vertical adjustment is required, with steel-pipe base stanchion support and cast-iron floor flange.
17. Single-Pipe Rolls (MSS Type 41): For suspension of pipes 1 inch to 30 inch, from two rods if longitudinal movement caused by expansion and contraction occurs.
18. Adjustable Roller Hangers (MSS Type 43): For suspension of pipes 2-1/2 inch to 24 inch, from single rod if horizontal movement caused by expansion and contraction occurs.
19. Complete Pipe Rolls (MSS Type 44): For support of pipes 2 inch to 42 inch if longitudinal movement caused by expansion and contraction occurs but vertical adjustment is unnecessary.
20. Pipe Roll and Plate Units (MSS Type 45): For support of pipes 2 inch to 24 inch if small horizontal movement caused by expansion and contraction occurs and vertical adjustment is unnecessary.
21. Adjustable Pipe Roll and Base Units (MSS Type 46): For support of pipes 2 inch to 30 inch if vertical and lateral adjustment during installation, in addition to expansion and contraction, is required.

J. 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 3/4 inch to 24 inch.
2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers 3/4 inch to 24 inch if longer ends are required for riser clamps.

K. 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. Swivel Turnbuckles (MSS Type 15): For use with MSS Type 11 split pipe rings.
4. Malleable-Iron Sockets (MSS Type 16): For attaching hanger rods to various types of building attachments.
5. Steel Weldless Eye Nuts (MSS Type 17): For 120 to 450 deg F piping installations.

L. 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.
15. Horizontal Travelers (MSS Type 58): For supporting piping systems subject to linear horizontal movement where headroom is limited.

M. 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.

N. Spring Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

1. Restraint-Control Devices (MSS Type 47): Where indicated to control piping movement.
2. Spring Cushions (MSS Type 48): For light loads if vertical movement does not exceed 1-1/4 inches.

3. Spring-Cushion Roll Hangers (MSS Type 49): For equipping Type 41 roll hanger with springs.
4. Spring Sway Braces (MSS Type 50): To retard sway, shock, vibration, or thermal expansion in piping systems.
5. Variable-Spring Hangers (MSS Type 51): Preset to indicated load, and limit variability factor to 25 percent to allow expansion and contraction of piping system from hanger.
6. Variable-Spring Base Supports (MSS Type 52): Preset to indicated load, and limit variability factor to 25 percent to allow expansion and contraction of piping system from base support.
7. Variable-Spring Trapeze Hangers (MSS Type 53): Preset to indicated load, and limit variability factor to 25 percent to allow expansion and contraction of piping system from trapeze support.
8. Constant Supports: For critical piping stress and if necessary to avoid transfer of stress from one support to another support, critical terminal, or connected equipment. Include auxiliary stops for erection, hydrostatic test, and load-adjustment capability. These supports include the following types:

    a. Horizontal (MSS Type 54): Mounted horizontally.
    b. Vertical (MSS Type 55): Mounted vertically.
    c. Trapeze (MSS Type 56): Two vertical-type supports and one trapeze member.

O. Comply with MSS SP-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation” for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.

P. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.

Q. Use powder-actuated fasteners or mechanical-expansion anchors instead of building attachments where required in concrete construction.

R. Use pipe-positioning systems in pipe spaces behind plumbing fixtures to support supply and waste piping for plumbing fixtures.

END OF SECTION 220529

SECTION 220548.13 - VIBRATION CONTROLS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Elastomeric isolation pads.
2. Elastomeric isolation mounts.
3. Restrained elastomeric isolation mounts.
4. Open-spring isolators.
5. Housed-spring isolators.
6. Restrained-spring isolators.
7. Housed-restrained-spring isolators.
8. Pipe-riser resilient support.
9. Resilient pipe guides.
10. Air-spring isolators.
11. Restrained-air-spring isolators.
12. Elastomeric hangers.
13. Spring hangers.
14. Snubbers.
15. Restraints - rigid type.
16. Restraints - cable type.
17. Restraint accessories.
18. Post-installed concrete anchors.
19. Concrete inserts.
20. Vibration isolation equipment bases.

B. Related Requirements:

1. Section 210548.13 "Vibration Controls for Fire-Suppression Piping and Equipment" for devices for fire-suppression equipment and systems.
2. Section 230548.13 "Vibration Controls for HVAC" for devices for HVAC equipment and systems.

1.3 DEFINITIONS

A. IBC: International Building Code.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

1. Include rated load, rated deflection, and overload capacity for each vibration isolation device.
2. Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of vibration isolation device component.
3. Annotate to indicate application of each product submitted and compliance with requirements.
4. Interlocking Snubbers: Include ratings for horizontal, vertical, and combined loads.

E. Shop Drawings:

1. Detail fabrication and assembly of equipment bases. Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
2. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.

    1) Qualified Professional Engineer: All designated-design submittals for wind-restraint calculations are to be signed and sealed by qualified professional engineer responsible for their preparation.

3. Design Calculations for Vibration Isolation Devices: Calculate static and dynamic loading due to equipment weight and operating forces required to select proper vibration isolators, and to design vibration isolation bases.
4. Riser Supports: Include riser diagrams and calculations showing anticipated expansion and contraction at each support point, initial and final loads on building structure, and spring deflection changes. Include certification that riser system was examined for excessive stress and that none exists.

F. Coordination Drawings: Show coordination of vibration isolation device installation for plumbing piping and equipment with other systems and equipment in the vicinity, including other supports and restraints, if any.

G. Qualification Data: For Professional Engineer and testing agency.

H. Welding certificates.

I. Air-Spring Mounting System Performance Certification: Include natural frequency, load, and damping test data.

J. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air-spring mounts and restrained-air-spring mounts to include in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct testing indicated, be an NRTL as defined by OSHA in 29 CFR 1910.7 “Definition and Requirements for a Nationally Recognized Testing Laboratory” and be acceptable to authorities having jurisdiction.

B. Welding Qualifications: Qualify procedures and personnel in accordance with AWS D1.1, "Structural Welding Code - Steel."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer to design system.

B. Consequential Damage: Provide additional restraints for suspended fire-suppression system components or anchorage of floor-, roof-, or wall-mounted fire-suppression system components as indicated in ASCE/SEI 7-16 so that failure of a non-essential or essential fire-suppression system component will not cause failure of any other essential architectural, mechanical, or electrical building component.

C. Fire/Smoke Resistance: All components that are not constructed of ferrous metals must have a maximum flame-spread index of 25 and maximum smoke-developed index of 50 when tested by an NRTL in accordance with ASTM E84 “Standard Test Method for Surface Burning Characteristics of Building Materials” or UL 723 “Surface Burning Characteristics of "SURFORMA Laminates Fire Retardant"”, and be so labeled.

D. Component Supports:

1. Load ratings, features, and applications of all reinforcement components must be based on testing standards of a nationally recognized testing agency.
2. All component support attachments must comply with force and displacement resistance requirements of ASCE/SEI 7-16 Section 13.6.

## 2.2 ELASTOMERIC ISOLATION PADS

A. Elastomeric Isolation Pads:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Ace Mountings Co., Inc.
    b. CADDY; nVent.
    c. California Dynamics Corporation.
    d. Isolation Technology, Inc.
    e. Kinetics Noise Control, Inc.
    f. Korfund.
    g. Mason Industries, Inc.
    h. Novia; A Division of C&P.
    i. Vibration Eliminator Co., Inc.
    j. Vibration Isolation.
    k. Vibration Management Corp.
    l. Vibration Mountings & Controls, Inc.
    m. Or equal.

2. Fabrication: Single or multiple layers of sufficient durometer stiffness for uniform loading over pad area.
3. Size: Factory or field cut to match requirements of supported equipment.
4. Minimum deflection as indicated on Drawings.
5. Pad Material: Oil- and water-resistant rubber.
6. Infused nonwoven cotton or synthetic fibers.
7. Load-bearing metal plates adhered to pads.
8. Sandwich-Core Material: [Resilient] [and] [elastomeric] <Insert compound>.

    a. Infused nonwoven cotton or synthetic fibers.

## 2.3 PIPE-RISER RESILIENT SUPPORT

A. All-Directional, Acoustical Pipe Anchor Consisting of Two Steel Tubes Separated by a Minimum 1/2-inch- Thick Neoprene:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. California Dynamics Corporation.
    b. Kinetics Noise Control, Inc.
    c. Mason Industries, Inc.
    d. Vibration Eliminator Co., Inc.
    e. Vibration Management Corp.
    f. Or equal.

2. Vertical-Limit Stops: Steel and neoprene vertical-limit stops arranged to prevent vertical travel in both directions.
3. Maximum Load Per Support: 500 psi on isolation material providing equal isolation in all directions.
4. Minimum deflection as indicated on Drawings.

## 2.4 RESILIENT PIPE GUIDES

A. Telescopic Arrangement of Two Steel Tubes or Post and Sleeve Arrangement Separated by a Minimum 1/2-inch- Thick Neoprene:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. California Dynamics Corporation.
    b. Kinetics Noise Control, Inc.
    c. Mason Industries, Inc.
    d. Vibration Eliminator Co., Inc.
    e. Vibration Mounting & Controls, Inc.
    f. Or equal.

2. Factory-Set Height Guide with Shear Pin: Shear pin shall be removable and reinsertable to allow for selection of pipe movement. Guides shall be capable of motion to meet location requirements.

## 2.5 SNUBBERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. CADDY; nVent.
2. Kinetics Noise Control, Inc.
3. Mason Industries, Inc.
4. Vibration Management Corp.
5. Vibration Mountings & Controls, Inc.
6. Or equal.

B. Description: Factory fabricated using welded structural-steel shapes and plates, anchor bolts, and replaceable resilient isolation washers and bushings.

1. Post-Installed Concrete Anchor Bolts: Secure to concrete surface with post-installed concrete anchors. Anchors to be prequalified in accordance with ACI 355.2 “Seismic Testing of Post-Installed Concrete and Masonry Anchors in Cracked Concrete” testing and designated in accordance with ACI 318-08 Appendix D for 2009 IBC
2. Preset Concrete Inserts: Prequalified in accordance with UNIFORM CODE-ES AC446 “Headed Cast-In Specialty Inserts in Concrete” testing. .
3. Anchors in Masonry: Design in accordance with TMS 402 “Building Code Requirements”.
4. Resilient Isolation Washers and Bushings: Oil- and water-resistant neoprene.

5. Resilient Cushion: Maximum ¼-inch air gap, and minimum ¼ inch thick.

## 2.6 RESTRAINTS – RIGID TYPE

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. B-line; Eaton, Electrical Sector.
2. CADDY; nVent.
3. California Dynamics Corporation.
4. Hilti, Inc.
5. Isolation Technology, Inc.
6. TOLCO.
7. Unistrut; Atkore International.
8. Vibration Mountings & Controls, Inc.
9. Or equal.

B. Description: Shop- or field-fabricated bracing assembly made of AISI S110-07-S1 slotted steel channels, ANSI/ASTM A53 steel pipe as per NFPA 13 "Standard for the Installation of Sprinkler Systems", or other rigid steel brace member. Includes accessories for attachment to braced component at one end and to building structure at the other end and other matching components and with corrosion-resistant coating; rated in tension, compression, and torsion forces.

## 2.7 RESTRAINTS – CABLE TYPE

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. B-line; Eaton, Electrical Sector.
2. CADDY; nVent.
3. Loos & Co.
4. Vibration Mountings & Controls, Inc.
5. Or equal.

B. Restraint Cables: ASTM A1023 galvanized or ASTM A603 galvanized-steel cables. End connections made of steel assemblies with thimbles, brackets, swivel, and bolts designed for restraining cable service; with fittings attached by means of poured socket, swaged socket, or mechanical (Flemish eye) loop.

C. Restraint cable assembly and cable fittings must comply with ASCE/SEI 19-10. All cable fittings and complete cable assembly must maintain the minimum cable breaking force. U-shaped cable clips and wedge-type end fittings do not comply and are unacceptable.

## 2.8 RESTRAINT ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. B-line; Eaton, Electrical Sector.
2. CADDY; nVent.
3. Hilti, Inc.
4. Loos & Co.
5. Mason Industries, Inc.
6. TOLCO.
7. Unistrut; Atkore International.

B. Bushings for Floor-Mounted Equipment Anchor Bolts: Neoprene bushings designed for rigid equipment mountings and matched to type and size of anchor bolts and studs.

C. Bushing Assemblies for Wall-Mounted Equipment Anchorage: Assemblies of neoprene elements and steel sleeves designed for rigid equipment mountings and matched to type and size of attachment devices used.

D. Resilient Isolation Washers and Bushings: One-piece, molded, oil- and water-resistant neoprene, with a flat washer face.

## 2.9 POST-INSTALLED CONCRETE ANCHORS

A. Mechanical Anchor Bolts:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. B-line; Eaton, Electrical Sector.
    b. Hilti, Inc.
    c. Mason Industries, Inc.
    d. Powers Fasteners.
    e. Simpson Strong-Tie Co., Inc.
    f. Unistrut; Atkore International.
    g. Or equal.

2. Drilled-in and stud-wedge or female-wedge type in zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E488 “Standard Test Methods for Strength of Anchors in Concrete Elements”.

B. Adhesive Anchor Bolts:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. B-line; Eaton, Electrical Sector.
    b. Hilti, Inc.
    c. Mason Industries, Inc.
    d. Powers Fasteners.
    e. Simpson Strong-Tie Co., Inc.

f. Unistrut; Atkore International.
g. Or equal.

2. Drilled-in and capsule anchor system containing PVC or urethane methacrylate-based resin and accelerator, or injected polymer or hybrid mortar adhesive. Provide anchor bolts and hardware with zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E488 “Standard Test Methods for Strength of Anchors in Concrete Elements”.

C. Provide post-installed concrete anchors that have been prequalified for use in wind-load applications. Post-installed concrete anchors must comply with all requirements of ASCE/SEI 7-16, Ch. 13.

1. Prequalify post-installed anchors in concrete in accordance with ACI 355.2 or other approved qualification testing procedures.
2. Prequalify post-installed anchors in masonry in accordance with approved qualification procedures.

D. Expansion-type anchor bolts are not permitted for equipment in excess of 10 hp that is not vibration isolated.

1. Undercut expansion anchors are permitted.

## 2.10 CONCRETE INSERTS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. B-line; Eaton, Electrical Sector.
2. Hilti, Inc.
3. Mason Industries, Inc.
4. Powers Fasteners.
5. Simpson Strong-Tie Co., Inc.
6. Unistrut; Atkore International.
7. Or equal.

B. Provide preset concrete inserts that are prequalified in accordance with UNIFORM CODE-ES AC466 “Headed Cast-In Specialty Inserts in Concrete” testing.

C. Comply with ANSI/MSS SP-58 “Reverse Osmosis Drinking Water Treatment”.

## 2.11 VIBRATION ISOLATION EQUIPMENT BASES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. CADDY; nVent.
2. California Dynamics Corporation.
3. Kinetics Noise Control, Inc.

4. Mason Industries, Inc.
5. Novia; A Division of C&P.
6. Vibration Eliminator Co., Inc.
7. Vibration Isolation.
8. Vibration Management Corp.
9. Vibration Mountings & Controls, Inc.
10. Or equal.

B. Steel Rails: Factory-fabricated, welded, structural-steel rails.

1. Design Requirements: Lowest possible mounting height with not less than 1-inch clearance above the floor. Include equipment anchor bolts and auxiliary motor slide rails.

a. Include supports for suction and discharge elbows for pumps.

2. Structural Steel: Steel shapes, plates, and bars complying with ASTM A36 “Standard Specification for Carbon Structural Steel”. Rails shall have shape to accommodate supported equipment.
3. Support Brackets: Factory-welded steel brackets on frame for outrigger isolation mountings and to provide for anchor bolts and equipment support.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine areas and equipment to receive vibration isolation devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in of reinforcement and cast-in-place anchors to verify actual locations before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 APPLICATIONS

A. Multiple Pipe Supports: Secure pipes to trapeze member with clamps approved for application by an agency acceptable to authorities having jurisdiction.

B. Hanger-Rod Stiffeners: Install where indicated or scheduled on Drawings to receive them and where required to prevent buckling of hanger rods due to wind load forces.

C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength is adequate to carry static [and wind-load ]forces within specified loading limits.

## 3.3 INSTALLATION OF VIBRATION-CONTROL DEVICES

A. Provide vibration-control devices for systems and equipment where indicated in Equipment Schedules or Vibration-Control Device Schedules, where indicated on Drawings, or where the Specifications indicate they are to be installed on specific equipment and systems.

B. Coordinate location of embedded connection hardware with supported equipment attachment and mounting points and with requirements for concrete reinforcement and formwork specified in Section 033000 "Cast-in-Place Concrete."

C. Installation of vibration isolators must not cause any stresses, misalignment or change of position of equipment or piping.

D. Comply with requirements in Section 077200 "Roof Accessories" for installation of roof curbs, equipment supports, and roof penetrations.

E. Equipment Restraints:

1. Install snubbers on plumbing equipment mounted on vibration isolators. Locate snubbers as close as possible to vibration isolators and bolt to equipment base and supporting structure.
2. Install resilient bolt isolation washers on equipment anchor bolts where clearance between anchor and adjacent surface exceeds 0.125 inch.

F. Piping Restraints:

1. Comply with requirements in MSS SP-127 “Bracing for Piping Systems: Seismic-Wind-Dynamic Design, Selection, and Application”.
2. Space lateral supports a maximum of 40 feet o.c., and longitudinal supports a maximum of 80 feet o.c.
3. Brace a change of direction longer than 12 feet.

G. Install bushing assemblies for anchor bolts for floor-mounted equipment, arranged to provide resilient media between anchor bolt and mounting hole in concrete base.

H. Install bushing assemblies for mounting bolts for wall-mounted equipment, arranged to provide resilient media where equipment or equipment-mounting channels are attached to wall.

I. Attachment to Structure: If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.

J. Post-Installed Concrete Anchors:

1. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during coring or drilling. Notify Director’s Representative if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid prestressed tendons, electrical and telecommunications conduit, and gas lines.
2. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.

3. Mechanical-Type Anchor Bolts: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
4. Adhesive-Type Anchor Bolts: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
5. Set anchors to manufacturer's recommended torque, using a torque wrench.
6. Install zinc-coated steel anchors for interior and stainless steel anchors for exterior applications.

## 3.4 INSTALLATION OF AIR-SPRING ISOLATORS

A. Section not applicable in this project.

## 3.5 ACCOMMODATION OF DIFFERENTIAL MOTION

A. Provide flexible connections in piping systems where they cross structural joints and other point where differential movement may occur. Provide adequate flexibility to accommodate differential movement as determined in accordance with ASCE/SEI 7 “Minimum Design Loads and Associated Criteria for Buildings and Other Structures”. Comply with requirements in Section 221116 "Domestic Water Piping" and Section 221119 "Domestic Water Piping Specialties" for piping flexible connections.

## 3.6 INSTALLATION OF VIBRATION ISOLATION EQUIPMENT BASES

A. Coordinate location of embedded connection hardware with supported equipment attachment and mounting points and with requirements for concrete reinforcement and formwork specified in Section 033000 "Cast-in-Place Concrete."

B. Coordinate dimensions of steel equipment rails, bases, and concrete inertia bases, with requirements of isolated equipment specified in this and other Sections. Where dimensions of base are indicated on Drawings, they may require adjustment to accommodate actual isolated equipment.

## 3.7 ADJUSTING

A. Adjust isolators after system is at operating weight.

B. Adjust limit stops on restrained-spring isolators to mount equipment at normal operating height. After equipment installation is complete, adjust limit stops so they are out of contact during normal operation.

3.8 FIELD QUALITY CONTROL

A. Testing Agency: Director’s Representative will engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a Company Field Advisor to test and inspect components, assemblies, and equipment installations, including connections.

C. Tests and Inspections:

1. Perform tests and inspections with the assistance of a Company Field Advisor.
2. Provide evidence of recent calibration of test equipment by a testing agency acceptable to authorities having jurisdiction.
3. Schedule test with Director’s Representative before connecting anchorage device to restrained component (unless post connection testing has been approved), and with at least seven days' advance notice.
4. Obtain Director’s Representative's approval before transmitting test loads to structure. Provide temporary load-spreading members.
5. Test no fewer than four of each type and size of installed anchors and fasteners selected by Director’s Representative.
6. Test to 90 percent of rated proof load of device.
7. Measure isolator restraint clearance.
8. Measure isolator deflection.
9. Verify snubber minimum clearances.

D. Remove and replace malfunctioning units and retest as specified above.

E. Units will be considered defective if they do not pass tests and inspections.

F. Prepare test and inspection reports.

END OF SECTION 220548.13

SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Equipment labels.
2. Warning signs and labels.
3. Pipe labels.
4. Stencils.
5. Valve tags.
6. Warning tags.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).Product Data: For each type of product indicated.

D. Samples: For color, letter style, and graphic representation required for each identification material and device.

E. Equipment Label Schedule: Include a listing of all equipment to be labeled with the proposed content for each label.

F. Valve numbering scheme.

G. Valve Schedules: For each piping system to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

A. Metal Labels for Equipment:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal:

    a. Brady Corporation.
    b. Brimar Industries, Inc.
    c. Carlton Industries, LP.
    d. Champion America.
    e. Craftmark Pipe Markers.
    f. emedco.
    g. Kolbi Pipe Marker Co.
    h. LEM Products Inc.
    i. Marking Services, Inc.
    j. Seton Identification Products; a Brady Corporation company.
    k. Panduit Corp.
    l. Or equal.

2. Material and Thickness: Brass, 0.032-inch minimum thickness, and having predrilled or stamped holes for attachment hardware.
3. Letter Color: Black.
4. Background Color: White.
5. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
6. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.
7. Fasteners: Stainless-steel rivets or self-tapping screws.
8. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

B. Plastic Labels for Equipment:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal:

    a. Brady Corporation.
    b. Brimar Industries, Inc.
    c. Carlton Industries, LP.
    d. Champion America.
    e. Craftmark Pipe Markers.
    f. emedco.
    g. Kolbi Pipe Marker Co.
    h. LEM Products Inc.
    i. Marking Services, Inc.
    j. Seton Identification Products; a Brady Corporation company.
    k. Panduit Corp.
    l. Or equal.

2. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8 inch thick and having predrilled holes for attachment hardware.
3. Letter Color: White.
4. Background Color: Black.
5. Maximum Temperature: Able to withstand temperatures up to 160 deg F.
6. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
7. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.
8. Fasteners: Stainless-steel rivets or self-tapping screws.
9. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

C. Label Content: Include equipment's Drawing designation or unique equipment number, Drawing numbers where equipment is indicated (plans, details, and schedules), and the Specification Section number and title where equipment is specified.

D. Equipment Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch bond paper. Tabulate equipment identification number and identify Drawing numbers where equipment is indicated (plans, details, and schedules) and the Specification Section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

## 2.2 WARNING SIGNS AND LABELS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal:

1. Brady Corporation.
2. Brimar Industries, Inc.
3. Carlton Industries, LP.
4. Champion America.
5. Craftmark Pipe Markers.
6. emedco.
7. LEM Products Inc.
8. Marking Services Inc.
9. National Marker Company.
10. Seton Identification Products; a Brady Corporation company.
11. Stranco, Inc.
12. Panduit Corp.
13. Or equal.

B. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8 inch thick and having predrilled holes for attachment hardware.

C. Letter Color: Black.

D. Background Color: Orange.

E. Maximum Temperature: Able to withstand temperatures up to 160 deg F.

F. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.

G. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.
H. Fasteners: Stainless-steel rivets or self-tapping screws.

I. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

J. Label Content: Include caution and warning information plus emergency notification instructions.

## 2.3 PIPE LABELS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal:

1. Actioncraft Products, Inc.; a division of Industrial Test Equipment Co., Inc.
2. Brady Corporation.
3. Brimar Industries, Inc.
4. Carlton Industries, LP.
5. Champion America.
6. Craftmark Pipe Markers.
7. emedco.
8. Kolbi Pipe Marker Co.
9. LEM Products Inc.
10. Marking Services Inc.
11. Seton Identification Products; a Brady Corporation company.
12. Panduit Corp
13. Or equal.

B. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.

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 pipe size and an arrow indicating flow direction.
1. Flow-Direction Arrows: Integral with piping-system service lettering to accommodate both directions or as separate unit on each pipe label to indicate flow direction.
2. Lettering Size: Size letters according to ASME A13.1 for piping and at least 1/2 inch for viewing distances up to 72 inches and proportionately larger lettering for greater viewing distances.

## 2.4 VALVE TAGS

A. Valve Tags to be hexagon in shape.

B. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2inch numbers.

1. Tag Material: Brass, 0.032-inch minimum thickness, and having predrilled or stamped holes for attachment hardware.
2. Fasteners: Brass wire-link chain or beaded chain or S-hook.

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. Valve-tag schedule shall be included in operation and maintenance data.

## 2.5 WARNING TAGS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal:

1. Brady Corporation.
2. Brimar Industries, Inc.
3. Champion America.
4. Craftmark Pipe Markers.
5. emedco.
6. Kolbi Pipe Marker Co.
7. LEM Products Inc.
8. Marking Services Inc.
9. Seton Identification Products; a Brady Corporation company.
10. Panduit Corp.
11. Or equal.

B. Description: Preprinted or partially preprinted accident-prevention tags of plasticized card stock with matte finish suitable for writing.

1. Size: 3 by 5-1/4 inches minimum.
2. Fasteners: Reinforced grommet and wire or string.
3. Nomenclature: Large-size primary caption such as "DANGER," "CAUTION," or "DO NOT OPERATE."
4. Color: Safety yellow background with black lettering.

PART 3 - EXECUTION

3.1 PREPARATION

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

3.2 GENERAL INSTALLATION 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. Install the Work of this Section in accordance with the manufacturer's printer installation instructions, unless otherwise specified.

3.3 EQUIPMENT LABEL INSTALLATION

A. Install or permanently fasten labels on each major item of mechanical equipment.

B. Locate equipment labels where accessible and visible.

3.4 PIPE LABEL INSTALLATION

A. 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. Near each valve and control device.
2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
4. At access doors, manholes, and similar access points that permit view of concealed piping.
5. Near major equipment items and other points of origination and termination.
6. Spaced at maximum intervals of 50 feet along each run. Reduce intervals to 25 feet in areas of congested piping and equipment.
7. On piping above removable acoustical ceilings. Omit intermediately spaced labels.

B. Directional Flow Arrows: Arrows shall be used to indicate direction of flow in pipes, including pipes where flow is allowed in both directions. C. Pipe Label Color Schedule:

1. Domestic Water Piping:

a. Background: Safety green.
b. Letter Colors: White.

2. Sanitary Waste and Storm Drainage Piping:

a. Background Color: Safety green.
b. Letter Color: White.

## 3.5 VALVE-TAG INSTALLATION

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.

B. Valve-Tag Application Schedule: Tag valves according to size, shape, and color scheme and with captions similar to those indicated in the following subparagraphs:

1. Valve-Tag Size and Shape:

a. Cold Water: 1-1/2 inches, round.
b. Hot Water: 1-1/2 inches, round.

| **OUTSIDE DIAMETER OF PIPE OR INSULATION (Inches)** | **LETTER SIZE (Inches)** | **LENGTH OF COLOR FIELD (Inches)** |
|---|---|---|
| 1-1/2 to 2 | 3/4 | 8 |

2. Valve-Tag Colors:

a. Cold Water: Natural
b. Hot Water: Natural

3. Letter Colors:

a. Cold Water: White
b. Hot Water: White

## 3.6 WARNING-TAG INSTALLATION

A. Write required message on, and attach warning tags to, equipment and other items where required.

END OF SECTION 220553

SECTION 220700 - PLUMBING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plumbing piping insulation, jackets and accessories.
2. Plumbing equipment insulation, jackets and accessories.

B. Related Sections:

1. Section 078413 - Penetration Firestopping: Product requirements for firestopping for placement by this section.
2. Section 099114 and/or 099123 - Painting and Coating: Execution requirements for painting insulation jackets and covering specified by this section.

1.2 REFERENCES

A. ASTM International:

1. ASTM A240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
2. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
3. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
4. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement.
5. ASTM C449 - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement.
6. ASTM C450 - Standard Practice for Fabrication of Thermal Insulating Fitting Covers for NPS Piping, and Vessel Lagging.
7. ASTM C533 - Standard Specification for Calcium Silicate Block and Pipe Thermal Insulation.
8. ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
9. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.
10. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
11. ASTM C591 - Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation.
12. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
13. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel.
14. ASTM C921 - Standard Practice for Determining the Properties of Jacketing Materials for Thermal Insulation.

15. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
16. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
17. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.

## 1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Section 013300 - Submittal Procedures: Submittal procedures.

E. Product Data: Submit product description, thermal characteristics and list of materials and thickness for each service, and location.

F. Samples: Submit two samples of representative size illustrating each insulation type.

G. Manufacturer's Installation Instructions: Submit manufacturers published literature indicating proper installation procedures.

H. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

## 1.4 QUALITY ASSURANCE

A. Factory fabricated fitting covers manufactured in accordance with ASTM C450 “Standard Practice for Fabrication of Thermal Insulating Fitting Covers for NPS Piping, and Vessel Lagging”.

B. Maintain one copy of each document on site.

## 1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Applicator: Company specializing in performing Work of this section with minimum three years documented experience.

## 1.6 PRE-INSTALLATION MEETINGS

A. Section 013000 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.

B. Protect insulation from weather and construction traffic, dirt, water, chemical, and damage, by storing in original wrapping.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Install insulation only when ambient temperature and humidity conditions are within range recommended by manufacturer.

B. Maintain temperature before, during, and after installation for minimum period of 24 hours.

1.9 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.10 WARRANTY

A. Furnish five year manufacturer warranty for man-made fiber.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Glass Fiber and Mineral Fiber Insulation:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. CertainTeed Corporation.
b. Knauf Fiberglass GmbH.
c. Manville.
d. Owens-Corning Fiberglass Corporation.
e. USG Interiors, Inc. – Thermafiber Division.
f. Or equal.

B. Closed Cell Elastomeric Insulation:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Armstrong World Industries, Inc.
    b. Halstead Industrial Products.
    c. IMCOA.
    d. Rubatex Corporation.
    e. Or equal.

C. Polyisocyanurate Foam Insulation

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Elliott Co.
    b. Guardian Packaging.
    c. Ox Engineered Products.
    d. Or equal.

## 2.2 EQUIPMENT INSULATION

A. TYPE E-8: ASTM C534 “Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form”, Type II, flexible, closed cell elastomeric insulation, sheet.

1. Thermal Conductivity: 0.27 at 75 degrees F.
2. Operating Temperature Range: Range: Minus 70 to 220 degrees F.

## 2.3 EQUIPMENT INSULATION JACKETS

A. Field Applied Glass Fiber Fabric Jacket System:

1. Insulating Cement/Mastic: ASTM C195 “Standard Specification for Mineral Fiber Thermal Insulating Cement”; hydraulic setting on mineral wool.
2. Glass Fiber Fabric:

    a. Cloth: Untreated; 9 oz/sq yd weight.
    b. Blanket: 1.0 lb/cu ft density.
    c. Weave: 0 x 10.

3. Indoor Vapor Retarder Finish:

    a. Cloth: Untreated; 9 oz/sq yd weight.
    b. Vinyl emulsion type acrylic, compatible with insulation, white color.

## 2.4 EQUIPMENT INSULATION ACCESSORIES

A. Vapor Retarder Lap Adhesive: Compatible with insulation.

B. Covering Adhesive Mastic: Compatible with insulation.

C. Tie Wire: 0.048 inch stainless steel with twisted ends on maximum 12 inch centers.

D. Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement: ASTM C449 "Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement".

E. Adhesives: Compatible with insulation.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Section 013000 - Administrative Requirements: Coordination and project conditions.

B. Verify equipment has been tested before applying insulation materials.

C. Verify surfaces are clean and dry, with foreign material removed.

## 3.2 INSTALLATION - EQUIPMENT

A. Factory Insulated Equipment: Do not insulate.

B. Exposed Equipment: Locate insulation and cover seams in least visible locations.

C. Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface. On cold equipment, use vapor retarder cement.

D. Equipment Containing Fluids 140 degrees F Or Less:

1. Do not insulate flanges and unions, but bevel and seal ends of insulation.
2. Install insulation with factory-applied or field applied jackets, with or without vapor barrier. Finish with glass cloth and adhesive.
3. Finish insulation at supports, protrusions, and interruptions.

E. Equipment in Mechanical Equipment Rooms or Finished Spaces: Finish with Field Applied Glass Fiber Fabric Jacket System.

F. Cover closed cell elastomeric foam insulation with metal mesh and finish with heavy coat of insulating cement.

G. Nameplates and ASME Stamps: Bevel and seal insulation around; do not cover with insulation.

H. Equipment Requiring Access for Maintenance, Repair, or Cleaning: Install insulation for easy removal and replacement without damage.

I. Prepare equipment insulation for finish painting. Refer to Section 099123 and 099114.

## 3.3 SCHEDULES

A. Equipment Insulation Schedule:

1. Roof Drain Bodies:

   a. Type: E-8.
   b. Thickness: 1 inch.

2. Domestic Water Booster Pump Bodies:

   a. Type: E-8.
   b. Thickness: 0.5 inch.

END OF SECTION 220700

SECTION 220719 - PLUMBING PIPING INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes insulating the following plumbing piping services:

1. Domestic cold-water piping.
2. Domestic hot-water piping.
3. Domestic recirculating hot-water piping.
4. Domestic chilled-water piping for drinking fountains.
5. Sanitary waste piping exposed to freezing conditions.
6. Storm-water piping exposed to freezing conditions.
7. Roof drains and rainwater leaders.
8. Supplies and drains for handicap-accessible lavatories and sinks.

B. Related Sections:

1. Section 220716 "Plumbing Equipment Insulation" for equipment insulation.

C. Abbreviations:

1. ASTM – American Society for Testing and Materials

1.3 ACTION SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are submitted and tabbed (for combined submittals).

D. Product Data: For each type of product. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory and field applied if any).

E. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail application of protective shields, saddles, and inserts at hangers for each type of insulation and hanger.
2. Detail attachment and covering of heat tracing inside insulation.
3. Detail insulation application at pipe expansion joints for each type of insulation.
4. Detail insulation application at elbows, fittings, flanges, valves, and specialties for each type of insulation.
5. Detail removable insulation at piping specialties, equipment connections, and access panels.
6. Detail application of field-applied jackets.
7. Detail application at linkages of control devices.

F. Samples: For each type of insulation and jacket indicated. Identify each Sample, describing product and intended use. Sample sizes are as follows:

1. Preformed Pipe Insulation Materials: 12 inches (300 mm) long by NPS 2 (DN 50).
2. Jacket Materials for Pipe: 12 inches (300 mm) long by NPS 2 (DN 50).
3. Sheet Jacket Materials: 12 inches (300 mm) square.
4. Manufacturer's Color Charts: For products where color is specified, show the full range of colors available for each type of finish material.

## 1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Material Test Reports: From a qualified testing agency acceptable to authorities having jurisdiction indicating, interpreting, and certifying test results for compliance of insulation materials, sealers, attachments, cements, and jackets, with requirements indicated. Include dates of tests and test methods employed.

C. Field quality-control reports.

## 1.5 QUALITY ASSURANCE

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products in accordance with ASTM E84 by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

1. Insulation Installed Indoors: Flame-spread index of 25 or less and smoke-developed index of 50 or less.
2. Insulation Installed Outdoors: Flame-spread index of 75 or less and smoke-developed index of 150 or less.

C. Mockups: Before installing insulation, build mockups for each type of insulation and finish listed below to demonstrate quality of insulation application and finishes. Build mockups in the location

indicated or, if not indicated, as directed by Director's Representative/Architect. Use materials indicated for the completed Work.

1. Piping Mockups:

    a. One 10-foot (3-m) section of NPS 2 (DN 50) straight pipe.
    b. One each of a 90 degree threaded, welded, and flanged elbow.
    c. One each of a threaded, welded, and flanged tee fitting.
    d. One NPS 2 (DN 50) or smaller valve and one NPS 2-1/2 (DN 65) or larger valve.
    e. Four support hangers, including hanger shield and insert.
    f. One threaded strainer and one flanged strainer with removable portion of insulation.
    g. One threaded reducer and one welded reducer.
    h. One pressure temperature tap.
    i. One mechanical coupling.
    j. One union.

2. For each mockup, fabricate cutaway sections to allow observation of application details for insulation materials, adhesives, mastics, attachments, and jackets.
3. Notify Director's Representative seven days in advance of dates and times when mockups will be constructed.
4. Obtain Director's Representative's approval of mockups before starting insulation application.
5. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed.

D. Comply with the following applicable standards and other requirements specified for miscellaneous components:

1. Supply and Drain Protective Shielding Guards: ICCUNIFORM CODE A117.1.

## 1.6 DELIVERY, STORAGE, AND HANDLING

A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

## 1.7 COORDINATION

A. Coordinate sizes and locations of supports, hangers, and insulation shields specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."

B. Coordinate clearance requirements with piping Installer for piping insulation application. Before preparing piping Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

C. Coordinate installation and testing of heat tracing.

1.8 SCHEDULING

A. Schedule insulation application after pressure testing systems and, where required, after installing and testing heat tracing. Insulation application may begin on segments that have satisfactory test results.

B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

A. Comply with requirements in "Piping Insulation Schedule, General," "Indoor Piping Insulation Schedule," "Outdoor, Aboveground Piping Insulation Schedule," and "Outdoor, Underground Piping Insulation Schedule" articles for where insulating materials shall be applied.

B. Products shall not contain asbestos, lead, mercury, or mercury compounds.

C. Products that come into contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested in accordance with ASTM C871.

D. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable in accordance with ASTM C795.

E. Foam insulation materials shall not use CFC or HCFC blowing agents in the manufacturing process.

F. Cellular Glass: Inorganic, incombustible, foamed or cellulated glass with annealed, rigid, hermetically sealed cells. Comply with ASTM C552.

1. Manufacturers: Subject to compliance with requirements, provide products by the following or approved equivalent:

a. Owens Corning.
b. Approved equivalent.

2. Preformed Pipe Insulation: Type II, Class 1, without jacket.
3. Preformed Pipe Insulation: Type II, Class 2, with factory-applied ASJ-SSL jacket.
4. Preformed Pipe Insulation: Type II, Class 1, without jacket.
5. Preformed Pipe Insulation: Type II, Class 2, with factory-applied ASJ-SSL jacket.
6. Factory fabricate shapes in accordance with ASTM C450 and ASTM C585.
7. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.

G. Flexible Elastomeric: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C534/C534M, Type I for tubular materials.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Aeroflex USA.
b. Armacell LLC.
c. K-Flex USA.
d. Approved equivalent.

H. Mineral-Fiber, Preformed Pipe: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C547.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Johns Manville; a Berkshire Hathaway company.
b. Knauf Insulation.
c. Manson Insulation Inc.
d. Owens Corning.
e. Approved equivalent.

2. Preformed Pipe Insulation: Type I, Grade A**,** with factory-applied ASJ-SSL.
3. 850 deg F (454 deg C).
4. Factory fabricate shapes in accordance with ASTM C450 and ASTM C585.
5. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.

## 2.2 INSULATING CEMENTS

A. Mineral-Fiber Insulating Cement: Comply with ASTM C195.

1. Manufacturers: Subject to compliance with requirements, provide products by the following or approved equivalent:

a. Ramco Insulation, Inc.
b. Approved equivalent.

B. Expanded or Exfoliated Vermiculite Insulating Cement: Comply with ASTM C196.

1. Manufacturers: Subject to compliance with requirements, provide products by the following or approved equivalent:

a. Ramco Insulation, Inc.
b. Approved equivalent.

C. Mineral-Fiber, Hydraulic-Setting Insulating and Finishing Cement: Comply with ASTM C449.

1. Manufacturers: Subject to compliance with requirements, provide products by the following or approved equivalent:

a. Ramco Insulation, Inc.
b. Approved equivalent.

2.3 ADHESIVES

A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated unless otherwise indicated.

B. Cellular-Glass Adhesive: Two-component, thermosetting urethane adhesive containing no flammable solvents, with a service temperature range of minus 100 to plus 200 deg F (minus 73 to plus 93 deg C).

1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following] or approved equivalent:

a. Foster Brand; H. B. Fuller Construction Products.
b. Approved equivalent.

C. Flexible Elastomeric: Solvent-based adhesive.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Aeroflex USA.
b. Armacell LLC.
c. K-Flex USA.
d. Approved equivalent.

2. Flame-spread index shall be 25 or less and smoke-developed index shall be 50 or less as tested in accordance with ASTM E84.
3. Flame-spread index shall be 25 or less and smoke-developed index shall be 50 or less as tested in accordance with ASTM E84.
4. Wet Flash Point: Below 0 deg F (minus 18 deg C).
5. Service Temperature Range: 40 to 200 deg F (4 to plus 93 deg C).
6. Color: Black.

D. Mineral-Fiber Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Childers Brand; H. B. Fuller Construction Products.
b. Foster Brand; H. B. Fuller Construction Products.
c. Approved equivalent.

E. ASJ Adhesive and FSK Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A, for bonding insulation jacket lap seams and joints.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Childers Brand; H. B. Fuller Construction Products.

b. Foster Brand; H. B. Fuller Construction Products.
c. Approved equivalent.

F. PVC Jacket Adhesive: Compatible with PVC jacket.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Johns Manville; a Berkshire Hathaway company.
b. Proto Corporation.
c. Speedline Corporation.
d. Approved equivalent.

## 2.4 MASTICS AND COATINGS

A. Materials shall be compatible with insulation materials, jackets, and substrates.

B. Vapor-Retarder Mastic, Water Based: Suitable for indoor use on below-ambient services.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Childers Brand; H. B. Fuller Construction Products.
b. Foster Brand; H. B. Fuller Construction Products.
c. Knauf Insulation.
d. Approved equivalent.

2. Water-Vapor Permeance: Comply with ASTM E96/E96M or ASTM F1249.
3. Service Temperature Range: 0 to plus 180 deg F (Minus 18 to plus 82 deg C)
4. Comply with MIL-PRF-19565C, Type II, for permeance requirements**,** with supplier listing on DOD QPD - Qualified Products Database.
5. Color: White.

C. Vapor-Retarder Mastic, Solvent Based, Indoor Use: Suitable for indoor use on below-ambient services.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Childers Brand; H. B. Fuller Construction Products.
b. Foster Brand; H. B. Fuller Construction Products.
c. Approved equivalent.

2. Water-Vapor Permeance: Comply with ASTM E96/E96M or ASTM F1249.
3. Service Temperature Range: 0 to 180 deg F (Minus 18 to plus 82 deg C).
4. Color: White.

D. Vapor-Retarder Mastic, Solvent Based, Outdoor Use: Suitable for outdoor use on below-ambient services.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

    a. Childers Brand; H. B. Fuller Construction Products.
    b. Foster Brand; H. B. Fuller Construction Products.
    c. Approved equivalent.

2. Water-Vapor Permeance: Comply with ASTM E96/E96M or ASTM F1249.
3. Service Temperature Range: Minus 50 to plus 220 deg F (Minus 46 to plus 104 deg C).
4. Color: White.

E. Breather Mastic: Water based; suitable for indoor and outdoor use on above-ambient services.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

    a. Childers Brand; H. B. Fuller Construction Products.
    b. Foster Brand; H. B. Fuller Construction Products.
    c. Knauf Insulation.
    d. Approved equivalent.

2. Water-Vapor Permeance: ASTM E96/E96M, greater than 1.0 perm (0.66 metric perms) at manufacturer's recommended dry film thickness.
3. Service Temperature Range: 0 to plus 180 deg F (Minus 18 to plus 82 deg C)
4. Color: White.

## 2.5 LAGGING ADHESIVES

A. Adhesives shall comply with MIL-A-3316C, Class I, Grade A, and shall be compatible with insulation materials, jackets, and substrates.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

    a. Childers Brand; H. B. Fuller Construction Products.
    b. Foster Brand; H. B. Fuller Construction Products.
    c. Approved equivalent.

2. Fire-resistant, water-based lagging adhesive and coating for use indoors to adhere fire-resistant lagging cloths over pipe insulation.
3. Fire-resistant, water-based lagging adhesive and coating for use indoors to adhere fire-resistant lagging cloths over pipe insulation.
4. Service Temperature Range: 20 to plus 180 deg F (Minus 6 to plus 82 deg C).
5. Color: White.

## 2.6 SEALANTS

A. Materials shall be as recommended by the insulation manufacturer and shall be compatible with insulation materials, jackets, and substrates.

B. Joint Sealants:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

   a. Childers Brand; H. B. Fuller Construction Products.
   b. Foster Brand; H. B. Fuller Construction Products.
   c. Owens Corning.
   d. Approved equivalent.

2. Permanently flexible, elastomeric sealant.
3. Service Temperature Range: Minus 58 to plus 176 deg F (Minus 50 to plus 80 deg C)
4. Color: White or gray.

C. FSK and Metal Jacket Flashing Sealants:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

   a. Childers Brand; H. B. Fuller Construction Products.
   b. Foster Brand; H. B. Fuller Construction Products.
   c. Approved equivalent.

2. Fire- and water-resistant, flexible, elastomeric sealant.
3. Service Temperature Range: Minus 40 to plus 250 deg F (Minus 40 to plus 121 deg C).
4. Color: Aluminum.

D. ASJ Flashing Sealants and PVC Jacket Flashing Sealants:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

   a. Childers Brand; H. B. Fuller Construction Products.
   b. Foster Brand; H. B. Fuller Construction Products.
   c. Approved equivalent.

2. Fire- and water-resistant, flexible, elastomeric sealant.
3. Service Temperature Range: Minus 40 to plus 250 deg F (Minus 40 to plus 121 deg C).
4. Color: White.

## 2.7 FACTORY-APPLIED JACKETS

A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:

1. ASJ: White, kraft-paper, fiberglass-reinforced scrim with aluminum-foil backing; complying with ASTM C1136, Type I.
2. ASJ-SSL: ASJ with self-sealing, pressure-sensitive, acrylic-based adhesive covered by a removable protective strip; complying with ASTM C1136, Type I.

3. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C1136, Type II.

## 2.8 FIELD-APPLIED FABRIC-REINFORCING MESH

A. Woven Glass-Fiber Fabric: Approximately 2 oz./sq. yd. (68 g/sq. m) with a thread count of 10 strands by 10 strands/sq. in. (4 strands by 4 strands/sq. mm) for covering pipe and pipe fittings.

1. Manufacturers: Subject to compliance with requirements, provide products by the following or approved equivalent:

a. Childers Brand; H. B. Fuller Construction Products.
b. Approved equivalent.

B. Woven Polyester Fabric: Approximately 1 oz./sq. yd. (34 g/sq. m) with a thread count of 10 strands by 10 strands/sq. in. (4 strands by 4 strands/sq. mm), in a Leno weave, for pipe.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Foster Brand; H. B. Fuller Construction Products.
b. Vimasco Corporation.
c. Approved equivalent.

## 2.9 FIELD-APPLIED CLOTHS

A. Woven Glass-Fiber Fabric: Comply with MIL-C-20079H, Type I, plain weave, and presized a minimum of 8 oz./sq. yd. (271 g/sq. m).

1. Manufacturers: Subject to compliance with requirements, provide products by the following or approved equivalent:

a. Alpha Associates, Inc.
b. Approved equivalent.

## 2.10 FIELD-APPLIED JACKETS

A. Field-applied jackets shall comply with ASTM C1136, Type I, unless otherwise indicated.

B. FSK Jacket: Aluminum-foil-face, fiberglass-reinforced scrim with kraft-paper backing.

C. PVC Jacket: High-impact-resistant, UV-resistant PVC complying with ASTM D1784, Class 16354-C; thickness as scheduled; roll stock ready for shop or field cutting and forming. Thickness is indicated in field-applied jacket schedules.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following: or approved equivalent:

a. Johns Manville; a Berkshire Hathaway company.
b. Proto Corporation.
c. Speedline Corporation.
d. Approved equivalent.

2. Adhesive: As recommended by jacket material manufacturer.
3. Color: White.
4. Factory-fabricated fitting covers to match jacket if available; otherwise, field fabricate.

a. Shapes: 45- and 90-degree, short- and long-radius elbows, tees, valves, flanges, unions, reducers, end caps, soil-pipe hubs, traps, mechanical joints, and P-trap and supply covers for lavatories.

D. Metal Jacket:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Johns Manville; a Berkshire Hathaway company.
b. RPR Products, Inc.
c. Approved equivalent.

2. Aluminum Jacket: Comply with ASTM B209 (ASTM B209M), Alloy 3003, 3005, 3105, or 5005, Temper H-14.

a. Sheet and roll stock ready for shop or field sizing or Factory cut and rolled to size.
b. Finish and thickness are indicated in field-applied jacket schedules.
c. Moisture Barrier for Indoor Applications: 1-mil- (0.025-mm-) thick, heat-bonded polyethylene and kraft paper.
d. Moisture Barrier for Outdoor Applications: 3-mil- (0.075-mm-) thick, heat-bonded polyethylene and kraft paper.
e. Factory-Fabricated Fitting Covers:

1) Same material, finish, and thickness as jacket.
2) Preformed two-piece or gore, 45- and 90-degree, short- and long-radius elbows.
3) Tee covers.
4) Flange and union covers.
5) End caps.
6) Beveled collars.
7) Valve covers.
8) Field fabricate fitting covers only if factory-fabricated fitting covers are not available.

E. Self-Adhesive Outdoor Jacket: 60-mil- (1.5-mm-) thick, laminated vapor barrier and waterproofing membrane for installation over insulation located aboveground outdoors; consisting of a rubberized bituminous resin on a cross-laminated polyethylene film covered with white aluminum-foil facing.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following: or approved equivalent:

a. MFM Building Products Corp.
b. Polyguard Products, Inc.
c. Approved equivalent.

2.11 TAPES

A. ASJ Tape: White vapor-retarder tape matching factory-applied jacket with acrylic adhesive, complying with ASTM C1136.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. 3M Industrial Adhesives and Tapes Division.
b. Ideal Tape Co., Inc., an American Biltrite Company.
c. Knauf Insulation.
d. Approved equivalent.

2. Width: 3 inches (75 mm).
3. Thickness: 11.5 mils (0.29 mm).
4. Adhesion: 90 ounces force/inch (1.0 N/mm) in width.
5. Elongation: 2 percent.
6. Tensile Strength: 40 lbs.f/inch (7.2 N/mm) in width.
7. ASJ Tape Disks and Squares: Precut disks or squares of ASJ tape.

B. FSK Tape: Foil-face, vapor-retarder tape matching factory-applied jacket with acrylic adhesive; complying with ASTM C1136.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. 3M Industrial Adhesives and Tapes Division.
b. Ideal Tape Co., Inc., an American Biltrite Company.
c. Knauf Insulation.
d. Approved equivalent.

2. Width: 3 inches (75 mm).
3. Thickness: 6.5 mils (0.16 mm).
4. Adhesion: 90 ounces force/inch (1.0 N/mm) in width.
5. Elongation: 2 percent.
6. Tensile Strength: 40 lbs.f/inch (7.2 N/mm) in width.
7. FSK Tape Disks and Squares: Precut disks or squares of FSK tape.

C. PVC Tape: White vapor-retarder tape matching field-applied PVC jacket with acrylic adhesive; suitable for indoor and outdoor applications.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. 3M Industrial Adhesives and Tapes Division.
b. Ideal Tape Co., Inc., an American Biltrite Company.

c. Approved equivalent.

2. Width: 2 inches (50 mm).
3. Thickness: 6 mils (0.15 mm).
4. Adhesion: 64 ounces force/inch (0.7 N/mm) in width.
5. Elongation: 500 percent.
6. Tensile Strength: 18 lbs.f/inch (3.3 N/mm) in width.

D. Aluminum-Foil Tape: Vapor-retarder tape with acrylic adhesive.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. 3M Industrial Adhesives and Tapes Division.
b. Ideal Tape Co., Inc., an American Biltrite Company.
c. Knauf Insulation.
d. Approved equivalent.

2. Width: 2 inches (50 mm).
3. Thickness: 3.7 mils (0.093 mm).
4. Adhesion: 100 ounces force/inch (1.1 N/mm) in width.
5. Elongation: 5 percent.
6. Tensile Strength: 34 lbs.f/inch (6.2 N/mm) in width.

## 2.12 SECUREMENTS

A. Bands:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Johns Manville; a Berkshire Hathaway company.
b. RPR Products, Inc.
c. Approved equivalent.

2. Aluminum: ASTM B209 (ASTM B209M), Alloy 3003, 3005, 3105, or 5005; Temper H-14, 0.020 inch (0.51 mm) thick, 1/2 inch (13 mm) wide with wing seal

B. Staples: Outward-clinching insulation staples, nominal 3/4-inch- (19-mm-) wide, stainless steel or Monel.

C. Wire: 0.080-inch (2.0-mm) nickel-copper alloy.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Johns Manville; a Berkshire Hathaway company.
b. RPR Products, Inc.
c. Approved equivalent.

2.13 PROTECTIVE SHIELDING GUARDS

A. Protective Shielding Pipe Covers:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Buckaroos, Inc.
b. Plumberex Specialty Products, Inc.
c. Zurn Industries, LLC.
d. Approved equivalent.

2. Description: Manufactured plastic wraps for covering plumbing fixture hot-water supply hot- and cold-water supplies and trap and drain piping. Comply with Americans with Disabilities Act (ADA) requirements.

B. Protective Shielding Piping Enclosures:

1. Manufacturers: Subject to compliance with requirements, provide products by the following or approved equivalent:

a. Zurn Industries, LLC.
b. Approved equivalent.

2. Description: Manufactured plastic enclosure for covering plumbing fixture hot- and cold-water supplies and trap and drain piping. Comply with ADA requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.

1. Verify that systems to be insulated have been tested and are free of defects.
2. Verify that surfaces to be insulated are clean and dry.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

B. Clean and prepare surfaces to be insulated. Before insulating, apply a corrosion coating to insulated surfaces as follows:

1. Stainless Steel: Coat 300 series stainless steel with an epoxy primer 5 mils (0.127 mm) thick and an epoxy finish 5 mils (0.127 mm) thick if operating in a temperature range of between 140 and 300 deg F (60 and 149 deg C). Consult coating manufacturer for appropriate coating materials and application methods for operating temperature range.
2. Carbon Steel: Coat carbon steel operating at a service temperature of between 32 and 300 deg F (0 and 149 deg C) with an epoxy coating. Consult coating manufacturer for appropriate coating materials and application methods for operating temperature range.

C. Coordinate insulation installation with the tradesman installing heat tracing. Comply with requirements for heat tracing that apply to insulation.

D. Mix insulating cements with clean potable water; if insulating cements are to be in contact with stainless steel surfaces, use demineralized water.

## 3.3 GENERAL INSTALLATION REQUIREMENTS

A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping, including fittings, valves, and specialties.

B. Install insulation materials, forms, vapor barriers or retarders, jackets, and of thicknesses required for each item of pipe system, as specified in insulation system schedules.

C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.

D. Install insulation with longitudinal seams at top and bottom of horizontal runs.

E. Install multiple layers of insulation with longitudinal and end seams staggered.

F. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.

G. Keep insulation materials dry during storage, application, and finishing. Replace insulation materials that get wet.

H. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.

I. Install insulation with least number of joints practical.

J. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.

1. Install insulation continuously through hangers and around anchor attachments.
2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends attached to structure with vapor-barrier mastic.
3. Install insert materials and insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.

4. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.

K. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.

L. Install insulation with factory-applied jackets as follows:

1. Draw jacket tight and smooth.
2. Cover circumferential joints with 3-inch- (75-mm-) wide strips, of same material as insulation jacket. Secure strips with adhesive and outward-clinching staples along both edges of strip, spaced 4 inches (100 mm) o.c.
3. Overlap jacket longitudinal seams at least 1-1/2 inches (38 mm). Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward-clinching staples along edge at 4 inches (100 mm) o.c.

    a. For below-ambient services, apply vapor-barrier mastic over staples.

4. Cover joints and seams with tape, in accordance with insulation material manufacturer's written instructions, to maintain vapor seal.
5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe flanges and fittings.

M. Cut insulation in a manner to avoid compressing insulation more than 25 percent of its nominal thickness.

N. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.

O. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches (100 mm) beyond damaged areas. Adhere, staple, and seal patches in similar fashion to butt joints.

P. For above-ambient services, do not install insulation to the following:

1. Vibration-control devices.
2. Testing agency labels and stamps.
3. Nameplates and data plates.
4. Cleanouts.

## 3.4 PENETRATIONS

A. Insulation Installation at Roof Penetrations: Install insulation continuously through roof penetrations.

1. Seal penetrations with flashing sealant.
2. For applications requiring only indoor insulation, terminate insulation above roof surface and seal with joint sealant. For applications requiring indoor and outdoor insulation, install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.

3. Extend jacket of outdoor insulation outside roof flashing at least 2 inches (50 mm) below top of roof flashing.
4. Seal jacket to roof flashing with flashing sealant.

B. Insulation Installation at Underground Exterior Wall Penetrations: Terminate insulation flush with sleeve seal. Seal terminations with flashing sealant.

C. Insulation Installation at Aboveground Exterior Wall Penetrations: Install insulation continuously through wall penetrations.

1. Seal penetrations with flashing sealant.
2. For applications requiring only indoor insulation, terminate insulation inside wall surface and seal with joint sealant. For applications requiring indoor and outdoor insulation, install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.
3. Extend jacket of outdoor insulation outside wall flashing and overlap wall flashing at least 2 inches (50 mm).
4. Seal jacket to wall flashing with flashing sealant.

D. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.

E. Insulation Installation at Fire-Rated Wall and Partition Penetrations: Install insulation continuously through penetrations of fire-rated walls and partitions.

1. Comply with requirements in Section 078413 "Penetration Firestopping" for firestopping and fire-resistive joint sealers.

F. Insulation Installation at Floor Penetrations:

1. Pipe: Install insulation continuously through floor penetrations.
2. Seal penetrations through fire-rated assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

## 3.5 GENERAL PIPE INSULATION INSTALLATION

A. Requirements in this article generally apply to all insulation materials, except where more specific requirements are specified in various pipe insulation material installation articles.

B. Insulation Installation on Fittings, Valves, Strainers, Flanges, Mechanical Couplings, and Unions:

1. Install insulation over fittings, valves, strainers, flanges, mechanical couplings, unions, and other specialties with continuous thermal and vapor-retarder integrity unless otherwise indicated.
2. Insulate pipe elbows using preformed fitting insulation or mitered fittings made from same material and density as that of adjacent pipe insulation. Each piece shall be butted tightly against adjoining piece and bonded with adhesive. Fill joints, seams, voids, and irregular surfaces with insulating cement finished to a smooth, hard, and uniform contour that is uniform with adjoining pipe insulation.

3. Insulate tee fittings with preformed fitting insulation or sectional pipe insulation of same material and thickness as that used for adjacent pipe. Cut sectional pipe insulation to fit. Butt each section closely to the next and hold in place with tie wire. Bond pieces with adhesive.
4. Insulate valves using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as that used for adjacent pipe. Overlap adjoining pipe insulation by not less than 2 times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. For valves, insulate up to and including the bonnets, valve stuffing-box studs, bolts, and nuts. Fill joints, seams, and irregular surfaces with insulating cement.
5. Insulate strainers using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than 2 times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. Fill joints, seams, and irregular surfaces with insulating cement. Insulate strainers, so strainer basket flange or plug can be easily removed and replaced without damaging the insulation and jacket. Provide a removable reusable insulation cover. For below-ambient services, provide a design that maintains vapor barrier.
6. Insulate flanges, mechanical couplings, and unions, using a section of oversized preformed pipe insulation. Overlap adjoining pipe insulation by not less than 2 times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. Stencil or label the outside insulation jacket of each union with the word "union" matching size and color of pipe labels.
7. Cover segmented insulated surfaces with a layer of finishing cement and coat with a mastic. Install vapor-barrier mastic for below-ambient services and a breather mastic for above-ambient services. Reinforce the mastic with fabric-reinforcing mesh. Trowel the mastic to a smooth and well-shaped contour.
8. For services not specified to receive a field-applied jacket, except for flexible elastomeric and polyolefin, install fitted PVC cover over elbows, tees, strainers, valves, flanges, and unions. Terminate ends with PVC end caps. Tape PVC covers to adjoining insulation facing, using PVC tape.

C. Insulate instrument connections for thermometers, pressure gages, pressure temperature taps, test connections, flow meters, sensors, switches, and transmitters on insulated pipes. Shape insulation at these connections by tapering it to and around the connection with insulating cement and finish with finishing cement, mastic, and flashing sealant.

D. Install removable insulation covers at locations indicated. Installation shall conform to the following:

1. Make removable flange and union insulation from sectional pipe insulation of same thickness as that on adjoining pipe. Install same insulation jacket as that of adjoining pipe insulation.
2. When flange and union covers are made from sectional pipe insulation, extend insulation from flanges or union at least 2 times the insulation thickness over adjacent pipe insulation on each side of flange or union. Secure flange cover in place with stainless steel or aluminum bands. Select band material compatible with insulation and jacket.
3. Construct removable valve insulation covers in same manner as for flanges, except divide the two-part section on the vertical center line of valve body.
4. When covers are made from block insulation, make two halves, each consisting of mitered blocks wired to stainless steel fabric. Secure this wire frame, with its attached insulation, to flanges with tie wire. Extend insulation at least 2 inches (50 mm) over adjacent pipe

insulation on each side of valve. Fill space between flange or union cover and pipe insulation with insulating cement. Finish cover assembly with insulating cement applied in two coats. After first coat is dry, apply and trowel second coat to a smooth finish.

5. Unless a PVC jacket is indicated in field-applied jacket schedules, finish exposed surfaces with a metal jacket.

## 3.6 INSTALLATION OF CELLULAR-GLASS INSULATION

A. Insulation Installation on Straight Pipes and Tubes:

1. Secure each layer of insulation to pipe with wire or bands, and bands and tighten bands without deforming insulation materials.
2. Where vapor barriers are indicated, seal longitudinal seams, end joints, and protrusions with vapor-barrier mastic and joint sealant.
3. For insulation with factory-applied jackets on above-ambient services, secure laps with outward-clinched staples at 6 inches (150 mm) o.c.
4. For insulation with factory-applied jackets on below-ambient services, do not staple longitudinal tabs. Instead, secure tabs with additional adhesive, as recommended by insulation material manufacturer, and seal with vapor-barrier mastic and flashing sealant.

B. Insulation Installation on Pipe Flanges:

1. Install preformed pipe insulation to outer diameter of pipe flange.
2. Make width of insulation section same as overall width of flange and bolts, plus twice the thickness of pipe insulation.
3. Fill voids between inner circumference of flange insulation and outer circumference of adjacent straight pipe segments with cut sections of cellular-glass block insulation of same thickness as that of pipe insulation.
4. Install jacket material with manufacturer's recommended adhesive, overlap seams at least 1 inch (25 mm), and seal joints with flashing sealant.

C. Insulation Installation on Pipe Fittings and Elbows:

1. Install preformed sections of same material as that of straight segments of pipe insulation when available. Secure according to manufacturer's written instructions.
2. When preformed sections of insulation are not available, install mitered sections of cellular-glass insulation. Secure insulation materials with wire or bands.

D. Insulation Installation on Valves and Pipe Specialties:

1. Install preformed sections of cellular-glass insulation to valve body.
2. Arrange insulation to permit access to packing and to allow valve operation without disturbing insulation.
3. Install insulation to flanges as specified for flange insulation application.

## 3.7 INSTALLATION OF FLEXIBLE ELASTOMERIC INSULATION

A. Seal longitudinal seams and end joints with manufacturer's recommended adhesive to eliminate openings in insulation that allow passage of air to surface being insulated.

B. Insulation Installation on Pipe Flanges:

1. Install pipe insulation to outer diameter of pipe flange.
2. Make width of insulation section same as overall width of flange and bolts, plus twice the thickness of pipe insulation.
3. Fill voids between inner circumference of flange insulation and outer circumference of adjacent straight pipe segments with cut sections of sheet insulation of same thickness as that of pipe insulation.
4. Secure insulation to flanges and seal seams with manufacturer's recommended adhesive to eliminate openings in insulation that allow passage of air to surface being insulated.

C. Insulation Installation on Pipe Fittings and Elbows:

1. Install mitered sections of pipe insulation.
2. Secure insulation materials and seal seams with manufacturer's recommended adhesive to eliminate openings in insulation that allow passage of air to surface being insulated.

D. Insulation Installation on Valves and Pipe Specialties:

1. Install preformed valve covers manufactured of same material as that of pipe insulation when available.
2. When preformed valve covers are not available, install cut sections of pipe and sheet insulation to valve body. Arrange insulation to permit access to packing and to allow valve operation without disturbing insulation.
3. Install insulation to flanges as specified for flange insulation application.
4. Secure insulation to valves and specialties, and seal seams with manufacturer's recommended adhesive to eliminate openings in insulation that allow passage of air to surface being insulated.

## 3.8 INSTALLATION OF MINERAL-FIBER INSULATION

A. Insulation Installation on Straight Pipes and Tubes:

1. Secure each layer of preformed pipe insulation to pipe with wire or bands, and bands and tighten bands without deforming insulation materials.
2. Where vapor barriers are indicated, seal longitudinal seams, end joints, and protrusions with vapor-barrier mastic and joint sealant.
3. For insulation with factory-applied jackets on above-ambient surfaces, secure laps with outward-clinched staples at 6 inches (150 mm) o.c.
4. For insulation with factory-applied jackets on below-ambient surfaces, do not staple longitudinal tabs. Instead, secure tabs with additional adhesive, as recommended by insulation material manufacturer, and seal with vapor-barrier mastic and flashing sealant.

B. Insulation Installation on Pipe Flanges:

1. Install preformed pipe insulation to outer diameter of pipe flange.
2. Make width of insulation section same as overall width of flange and bolts, plus twice the thickness of pipe insulation.
3. Fill voids between inner circumference of flange insulation and outer circumference of adjacent straight pipe segments with mineral-fiber blanket insulation.

4. Install jacket material with manufacturer's recommended adhesive, overlap seams at least 1 inch (25 mm), and seal joints with flashing sealant.

C. Insulation Installation on Pipe Fittings and Elbows:

1. Install preformed sections of same material as that of straight segments of pipe insulation when available.
2. When preformed insulation elbows and fittings are not available, install mitered sections of pipe insulation, to a thickness equal to adjoining pipe insulation. Secure insulation materials with wire or bands.

D. Insulation Installation on Valves and Pipe Specialties:

1. Install preformed sections of same material as that of straight segments of pipe insulation when available.
2. When preformed sections are not available, install mitered sections of pipe insulation to valve body.
3. Arrange insulation to permit access to packing and to allow valve operation without disturbing insulation.
4. Install insulation to flanges as specified for flange insulation application.

## 3.9 FIELD-APPLIED JACKET INSTALLATION

A. Where glass-cloth jackets are indicated, install directly over bare insulation or insulation with factory-applied jackets.

1. Draw jacket smooth and tight to surface with 2-inch (50-mm) overlap at seams and joints.
2. Embed glass cloth between two 0.062-inch- (1.6-mm-) thick coats of lagging adhesive.
3. Completely encapsulate insulation with coating, leaving no exposed insulation.

B. Where FSK jackets are indicated, install as follows:

1. Draw jacket material smooth and tight.
2. Install lap or joint strips with same material as jacket.
3. Secure jacket to insulation with manufacturer's recommended adhesive.
4. Install jacket with 1-1/2-inch (38-mm) laps at longitudinal seams and 3-inch- (75-mm-) wide joint strips at end joints.
5. Seal openings, punctures, and breaks in vapor-retarder jackets and exposed insulation with vapor-barrier mastic.

C. Where PVC jackets are indicated, install with 1-inch (25-mm) overlap at longitudinal seams and end joints. Seal with manufacturer's recommended adhesive.

1. Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.

D. Where metal jackets are indicated, install with 2-inch (50-mm) overlap at longitudinal seams and end joints. Overlap longitudinal seams arranged to shed water. Seal end joints with weatherproof sealant recommended by insulation manufacturer. Secure jacket with stainless steel bands 12 inches (300 mm) o.c. and at end joints.

## 3.10 FINISHES

A. Insulation with ASJ, Glass-Cloth, or Other Paintable Jacket Material: Paint jacket with paint system identified below and as specified in Section 0991143 "Exterior Painting" and Section 099123 "Interior Painting."

1. Flat Acrylic Finish: Two finish coats over a primer that is compatible with jacket material and finish coat paint. Add fungicidal agent to render fabric mildew proof.

a. Finish Coat Material: Interior, flat, latex-emulsion size.

B. Flexible Elastomeric Thermal Insulation: After adhesive has fully cured, apply two coats of insulation manufacturer's recommended protective coating.

C. Color: Final color as selected by Architect. Vary first and second coats to allow visual inspection of the completed Work.

D. Do not field paint aluminum or stainless steel jackets.

## 3.11 FIELD QUALITY CONTROL

A. Director’s Representative will engage a qualified testing agency to perform tests and inspections.

B. Engage a qualified testing agency to perform tests and inspections.

C. Manufacturer's Field Service: Engage a Company Service Advisor factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

D. Perform tests and inspections with the assistance of a Company Service Advisor factory-authorized service representative.

E. Tests and Inspections: Inspect pipe, fittings, strainers, and valves, randomly selected by Architect, by removing field-applied jacket and insulation in layers in reverse order of their installation. Extent of inspection shall be limited to three locations of straight pipe, three locations of threaded fittings, three locations of welded fittings, two locations of threaded strainers, two locations of welded strainers, three locations of threaded valves, and three locations of flanged valves for each pipe service defined in the "Piping Insulation Schedule, General" Article.

F. All insulation applications will be considered defective if they do not pass tests and inspections.

G. Prepare test and inspection reports.

## 3.12 PIPING INSULATION SCHEDULE, GENERAL

A. Acceptable preformed pipe and tubular insulation materials and thicknesses are identified for each piping system and pipe size range. If more than one material is listed for a piping system, selection from materials listed is Contractor's option.

B. Items Not Insulated: Unless otherwise indicated, do not install insulation on the following:

1. Drainage piping located in crawl spaces.
2. Underground piping.
3. Chrome-plated pipes and fittings unless there is a potential for personnel injury.

## 3.13 INDOOR PIPING INSULATION SCHEDULE

A. Domestic Cold Water:

1. NPS 1 (DN 25) and Smaller: Insulation shall be one of the following:

   a. Cellular Glass: 1-1/2 inches (38 mm) thick.
   b. Flexible Elastomeric: 1 inch (25 mm) thick.
   c. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

2. NPS 1-1/4 (DN 32) to NPS 1-1/2 (DN 40): Insulation shall be one of the following:

   a. Cellular Glass: 1-1/2 inches (38 mm) thick.
   b. Flexible Elastomeric: 1 inch (25 mm) thick.
   c. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

3. NPS 2 (DN 50) and larger: Insulation shall be one of the following:

   a. Cellular Glass: 1-1/2 inches (38 mm) thick.
   b. Flexible Elastomeric: 1-1/2 inch (25 mm) thick.
   c. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

B. Domestic Hot and Recirculated Hot Water:

1. NPS 1-1/4 (DN 32) and Smaller: Insulation shall be one of the following:

   a. Cellular Glass: 1-1/2 inches (38 mm) thick.
   b. Flexible Elastomeric: 1 inch (25 mm) thick.
   c. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

2. NPS 1-1/2 (DN 40) and Larger: Insulation shall be one of the following:

   a. Cellular Glass: 1-1/2 inches (38 mm) thick.
   b. Flexible Elastomeric: 1-1/2 inch (38 mm) thick.
   c. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1-1/2 inch (38 mm) thick.

C. Stormwater and Overflow:

1. All Pipe Sizes: Insulation shall be one of the following:

   a. Cellular Glass: 1-1/2 inches (38 mm) thick.
   b. Flexible Elastomeric: 1 inch (25 mm) thick.
   c. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

D. Roof Drain and Overflow Drain Bodies:

1. All Pipe Sizes: Insulation shall be one of the following:

a. Cellular Glass: 1-1/2 inches (38 mm) thick.
b. Flexible Elastomeric: 1 inch (25 mm) thick.
c. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

E. Exposed Sanitary Drains, Domestic Water, Domestic Hot Water, and Stops for Plumbing Fixtures for People with Disabilities:

1. All Pipe Sizes: Insulation shall be one of the following:

a. Flexible Elastomeric: 1 inch (25 mm) thick.
b. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

F. Floor Drains, Traps, and Sanitary Drain Piping within 10 Feet (3 m) of Drain Receiving Condensate and Equipment Drain Water below 60 Deg F (16 Deg C):

1. All Pipe Sizes: Insulation shall be one of the following:

a. Cellular Glass: 1-1/2 inches (38 mm) thick.
b. Flexible Elastomeric: 1 inch (25 mm) thick.
c. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

G. Hot Service Drains:

1. All Pipe Sizes: Insulation shall be one of the following:

a. Cellular Glass: 1-1/2 inches (38 mm) thick.
b. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

H. Hot Service Vents:

1. All Pipe Sizes: Insulation shall be one of the following:

a. Cellular Glass: 1-1/2 inches (38 mm) thick.
b. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1 inch (25 mm) thick.

## 3.14 UNDERGROUND, FIELD-APPLIED INSULATION JACKET

A. For underground direct-buried piping applications, install underground direct-buried jacket over insulation material.

END OF SECTION 220719

SECTION 220800 - COMMISSIONING OF PLUMBING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Description.

B. Responsibilities.

C. Related Work.

D. Test Equipment.

1.2 DESCRIPTION

A. The purpose of this section is to specify Division 22 responsibilities in the commissioning process.

B. The systems to be commissioned are listed in Section 019113.

C. Commissioning requires the participation of the Division 22 Contractor to ensure that all systems are operating in a manner consistent with the Contract Documents. The general commissioning requirements and coordination are detailed in Section 019113. Division 22 Contractor shall be familiar with all parts of Section 019113 and shall execute all commissioning responsibilities assigned to them in the Contract Documents.

1.3 RESPONSIBILITIES

A. Refer to Section 019113.

1.4 RELATED WORK

A. Specific commissioning requirements are given in the following sections of these specifications. All the following sections apply to the Work of this section.

1. Section 017823 - Operations and Maintenance.
2. Section 017900 - Demonstration and Training.
3. Section 019113 – Commissioning.
4. Section 210800 – Commissioning of Fire Protection.
5. Section 230800 - Commissioning of HVAC.
6. Section 260800 - Commissioning of Electrical.

PART 2 - PRODUCTS

2.1 TEST EQUIPMENT

A. The Contractor shall provide (as required) all test equipment necessary to fulfill the testing requirements of this Division. This equipment includes, but is not limited to, the following:

1. Handheld temperature and relative humidity meter.
2. Infrared thermometer gun.
3. Analog differential pressure gauge and associated tubing.
4. Portable computer with access to the building automation system.

B. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the related specifications. If not otherwise noted, the following minimum requirements apply:

1. Temperature sensors and digital thermometers shall have a certified calibration within the past year to an accuracy of 0.5F and a resolution of +/- 0.1F.
2. Pressure sensors shall have an accuracy of +/- 2.0% of the value range being measured (not full range of meter) and have been calibrated within the last year.
3. All equipment shall be calibrated according to the manufacturer's recommended intervals and when dropped or damaged. Calibration tags shall be affixed or certificates readily available.

C. Commissioned Plumbing systems shall include:

Domestic Hot water recirculation pump.
Expansion Tank.
Mixing Valves.

D. Refer to Section 019113 for additional Division 22 requirements.

PART 3 - EXECUTION

A. Refer to Section 019113.

END OF SECTION

SECTION 221000 - PLUMBING PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Pipe and pipe fittings for the following systems:

1. Domestic water piping, within 5 feet of building.
2. Sanitary sewer piping.
3. Storm water piping.
4. Equipment drains and over flows.
5. Unions and flanges.
6. Underground pipe markers.
7. Bedding and cover materials.

B. Related Sections:

1. Section 078413 – Penetration Firestopping: Product requirements for firestopping for placement by this section.
2. Section 083113 - Access Doors and Frames: Product requirements for access doors for placement by this section.
3. Section 099114 and/or 099123 - Painting and Coating: Product and execution requirements for painting specified by this section.
4. Section 220523 - General-Duty Valves for Plumbing Piping: Product requirements for valves for placement by this section.
5. Section 220529 - Hangers and Supports for Plumbing Piping and Equipment: Product requirements for pipe hangers and supports [and firestopping] for placement by this section.
6. Section 220548 - Vibration and Seismic Controls for Plumbing Piping and Equipment: Product requirements for vibration isolation for placement by this section.
7. Section 220700 - Plumbing Insulation: Product requirements for piping insulation for placement by this section.

1.2 REFERENCES

A. American Society of Mechanical Engineers:

1. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
2. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
3. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
4. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings (DWV).
5. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes.
6. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV.
7. ASME B31.9 - Building Services Piping.
8. ASME B36.10M - Welded and Seamless Wrought Steel Pipe.

9. ASME Section IX - Boiler and Pressure Vessel Code - Welding and Brazing Qualifications.

B. ASTM International:

1. ASTM A47 - Standard Specification for Ferritic Malleable Iron Castings.
2. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
3. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings.
4. ASTM A234 - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service.
5. ASTM B32 - Standard Specification for Solder Metal.
6. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes.
7. ASTM B75 - Standard Specification for Seamless Copper Tube.
8. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
9. ASTM B251 - Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube.
10. ASTM B280 - Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.
11. ASTM B302 - Standard Specification for Threadless Copper Pipe, Standard Sizes.
12. ASTM B306 - Standard Specification for Copper Drainage Tube (DWV).
13. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
14. ASTM F1476 - Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications.

C. American Welding Society:

1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.
2. AWS D1.1 - Structural Welding Code - Steel.

D. American Water Works Association:

1. AWWA C110 - American National Standard for Ductile-Iron and Grey-Iron Fittings, 3 in. through 48 in. (75 mm through 1200 mm), for Water and Other Liquids.
2. AWWA C111 - American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
3. AWWA C151 - American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.

E. Cast Iron Soil Pipe Institute:

1. CISPI 301 - Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications.
2. CISPI 310 - Specification for Coupling for Use in Connection with Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications.

F. National Fire Protection Association:

1. NFPA 99 - Standard for Health Care Facilities.

## 1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Section 013300 - Submittal Procedures: Submittal procedures.

E. Shop Drawings: Indicate layout of piping systems, including equipment, critical dimensions, and sizes.

F. Product Data: Submit data on pipe materials and fittings. Submit manufacturers catalog information.

G. Design Data: Indicate pipe sizes. Indicate pipe sizing methods. Indicate calculations used.

H. Welders' Certificate: Include welders' certification of compliance with AWS D1.1.

I. Qualification Data: For Manufacturer and Installer Qualifications.

## 1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ASME B31.9 “Building Services Piping” code for installation of piping systems and ASME Section IX for welding materials and procedures.

B. Maintain one copy copies of each document on site.

## 1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this Section with minimum three years' documented experience.

B. Installer: Company specializing in performing work of this Section with minimum three years documented experience.

## 1.6 PRE-INSTALLATION MEETINGS

A. Section 013000 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing Work of this Section.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Furnish temporary end caps and closures on piping and fittings. Maintain in place until installation.

B. Protect piping from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Do not install underground piping when bedding is wet or frozen.

1.9 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.10 COORDINATION

A. Section 013000 - Administrative Requirements: Requirements for coordination.

B. Coordinate installation of buried piping with trenching.

PART 2 - PRODUCTS

2.1 DOMESTIC WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Copper Tubing: ASTM B88 “Standard Specification for Seamless Copper Water Tube”, Type K, annealed.

1. Fittings: ASME B16.18 “Cast Copper Alloy Solder Joint Pressure Fittings”, cast copper, or ASME B16.22 “Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings”, wrought copper.
2. Joints: Compression connection or Brazed, AWS A5.8 “Filler Metals for Brazing & Braze Welding” BCuP silver/phosphorus/copper alloy with melting range 1190 to 1480 degrees F.

2.2 DOMESTIC WATER PIPING, ABOVE GRADE

A. Copper Tubing: ASTM B88, Type L drawn.

1. Fittings: ASME B16.18 “Cast Copper Alloy Solder Joint Pressure Fittings”, cast copper alloy or ASME B16.22 “Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings”, wrought copper and bronze.
2. Joints: ASTM B32, Alloy Grade Sb5 tin-antimony, or Alloy Grade Sn95 tin-silver, lead free solder.

## 2.3 SANITARY SEWER PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Cast Iron Soil Pipe: ASTM A74 “Standard Specification for Cast Iron Soil Pipe and Fittings”, service weight, bell and spigot ends.

1. Fittings: Cast iron, ASTM A74 “Standard Specification for Cast Iron Soil Pipe and Fittings”.
2. Joints: Hub-and-spigot, CISPI HSN compression type with ASTM C564 “Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings” neoprene gaskets or lead and oakum.
3. Cast Iron Pipe: CISPI 301 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications”, hub-less.1. Fittings: Cast iron, CISPI 301 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications”.Joints: CISPI 310 “Specification for Use in Connection with Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications” neoprene gasket and stainless steel clamp and shield assemblies.

## 2.4 SANITARY SEWER PIPING, ABOVE GRADE

A. Cast Iron Pipe: CISPI 301 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications”, hub-less, service weight.

1. Fittings: Cast iron, CISPI 301 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications”.
2. Joints: CISPI 310 “Specification for Use in Connection With Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications", neoprene gaskets and stainless steel clamp-and-shield assemblies.

B. Copper Tube: ASTM B306, DWV Type L.

1. Fittings: ASME B16.23 “Cast Copper Alloy Solder Joint Drainage Fittings: DWV”, cast bronze, or ASME B16.29 “Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings- DMV”, wrought copper.
2. Joints: ASTM B32 “Standard Specification for Solder Metal”, Alloy Grade Sb5 tin-antimony, or Alloy Grade Sn95 tin-silver, lead free solder.

## 2.5 STORM WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Cast Iron Pipe: CISPI 301 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications”, hubless, service weight.

1. Fittings: Cast iron, CISPI 301 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications”.
2. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies.

## 2.6 STORM WATER PIPING, ABOVE GRADE

A. Cast Iron Pipe: CISPI 301 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications”, hubless, service weight.

1. Fittings: Cast iron, CISPI 301 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications”.
2. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies.

## 2.7 UNIONS AND FLANGES

A. Unions for Pipe 2 inches and Smaller:

1. Ferrous Piping: Class 150, malleable iron, threaded.
2. Copper Piping: Class 150, bronze unions with soldered.
3. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

B. Flanges for Pipe 2-1/2 inches and Larger:

1. Ferrous Piping: Class 150, forged steel, slip-on flanges.
2. Copper Piping: Class 150, slip-on bronze flanges.
3. PVC Piping: PVC flanges.
4. CPVC Piping: CPVC flanges.
5. Gaskets: 1/16 inch thick preformed neoprene gaskets.

## 2.8 UNDERGROUND PIPE MARKERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Craftsmark Identification Systems
2. Seton Identification Products
3. W.H. Brady Company
4. Or equal.

B. Plastic Ribbon Tape: Bright colored, continuously printed, minimum 6 inches wide by 4 mil thick, manufactured for direct burial service.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Section 013000 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify excavations are to required grade, dry, and not over-excavated.

C. Verify trenches are ready to receive piping.

## 3.2 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

## 3.3 INSTALLATION - BURIED PIPING SYSTEMS

A. Verify connection to existing piping system size, location, and invert are as indicated on Drawings.

B. Establish elevations of buried piping with not less than 1.5 ft of cover.

C. Install pipe to elevation as indicated on Drawings.

D. Place bedding material at trench bottom to provide uniform bedding for piping, level bedding materials in one continuous layer not exceeding 4 inches compacted depth; compact to 95 percent maximum density.

E. Install pipe on prepared bedding.

F. Route pipe in straight line.

G. Install pipe to allow for expansion and contraction without stressing pipe or joints.

H. Install shutoff and drain valves at locations indicated on Drawings in accordance with Section 220523.

I. Install plastic ribbon tape continuous over top of pipe. Refer to Section 220553.

## 3.4 INSTALLATION - ABOVE GROUND PIPING

A. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.

B. Install piping to maintain headroom without interfering with use of space or taking more space than necessary.

C. Group piping whenever practical at common elevations.

D. Sleeve pipe passing through partitions, walls and floors. Refer to Section 220529.

E. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings. Refer to Section 220700.

F. Provide access where valves and fittings are not accessible. Coordinate size and location of access doors with Section 083113.

G. Install non-conducting dielectric connections wherever jointing dissimilar metals.

H. Establish invert elevations, slopes for drainage to 1/8 inch per foot minimum. Maintain gradients.

I. Slope piping and arrange systems to drain at low points.

J. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

K. Install piping penetrating roofed areas to maintain integrity of roof assembly.

L. Install valves in accordance with Section 220523.

M. Insulate piping. Refer to Section 220700.

N. Install pipe identification in accordance with Section 220553.

## 3.5 INSTALLATION - DOMESTIC WATER PIPING SYSTEMS

A. Install domestic water piping system in accordance with Section 221116.

## 3.6 INSTALLATION - SANITARY WASTE AND VENT PIPING SYSTEMS

A. Install sanitary waste and vent piping systems in accordance with Section 221316.

B. Install bell and spigot pipe with bell end upstream.

C. Support cast iron drainage piping at every joint.

## 3.7 INSTALLATION - STORM DRAINAGE PIPING SYSTEMS

A. Install storm drainage piping systems in accordance with Section 221413.

B. Install bell and spigot pipe with bell end upstream.

C. Support cast iron drainage piping at every joint.

## 3.8 FIELD QUALITY CONTROL

A. Test domestic water piping system in accordance with local authority having jurisdiction.

B. Test sanitary waste and vent piping system in accordance with local authority having jurisdiction.

C. Test storm drainage piping system in accordance with local authority having jurisdiction.

## 3.9 CLEANING

A. Clean and disinfect domestic water distribution system in accordance with Section 221116.

END OF SECTION 221000

SECTION 221116 - DOMESTIC WATER PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Copper tube and fittings.
2. Ductile-iron pipe and fittings.
3. Piping joining materials.
4. Transition fittings.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are submitted and tabbed (for combined submittals).

D. Product Data:

1. Pipe and tube.
2. Fittings.
3. Joining materials.
4. Transition fittings.

E. Submit an Environmental Product Declaration (EPD) from the manufacturer for steel pipe within this specification section, if available. A statement of the contractor's good faith effort to obtain the EPD shall be provided if not available.

1. Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 *Environmental labels and declarations*, ISO 14044 *Environmental management – Life cycle assessment*, and ISO 21930 *Core rules for environmental product declarations of construction products and services.*

F. Coordination Drawings: Piping layout, or BIM model, drawn to scale, showing the items described in this Section, and coordinated with all building trades.

G. System purging and disinfecting activities report.

H. Field quality-control reports.

1.4 FIELD CONDITIONS

A. Interruption of Existing Water Service: Do not interrupt service to facilities occupied unless permitted under the following conditions and then only after arranging to provide temporary water service according to requirements indicated:

1. Notify Director's Representative no fewer than 7 days in advance of proposed interruption of service.
2. Do not interrupt service without written permission from Director's Representative.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Potable-water piping and components shall comply with NSF 14, NSF 61, and NSF 372.

2.2 COPPER TUBE AND FITTINGS

A. Drawn-Temper Copper Tube: ASTM B88, Type L.

B. Annealed-Temper Copper Tube: ASTM B88, Type K.

C. Cast-Copper, Solder-Joint Fittings: ASME B16.18, pressure fittings.

D. Wrought-Copper, Solder-Joint Fittings: ASME B16.22, pressure fittings.

E. Bronze Flanges: ASME B16.24, Class 150, with solder-joint ends.

1. Cast Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.
2. Wrought Copper Unions: ASME B16.22.

F. Copper Tube, Pressure-Seal-Joint Fittings:

1. Fittings: Cast-brass, cast-bronze, or wrought-copper with EPDM O-ring seal in each end.
2. Minimum 200-psig working-pressure rating at 250 deg F.

2.3 PIPING JOINING MATERIALS

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.

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

C. Solder Filler Metals: ASTM B32, lead-free alloys.

D. Flux: ASTM B813, water flushable.

E. Brazing Filler Metals: AWS A5.8, BCuP Series, copper-phosphorus alloys for general-duty brazing unless otherwise indicated.

## 2.4 TRANSITION FITTINGS

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.

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

C. Sleeve-Type Transition Coupling: AWWA C219.

# 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. Under-building-slab, domestic water, building-service piping, 3 inch and smaller, shall be the following:

1. Annealed-temper copper tube, ASTM B88, Type K; wrought-copper, solder-joint fittings; and brazed joints.

D. Aboveground domestic water piping, 2 inch and smaller, shall be one of the following:

1. Drawn-temper copper tube, ASTM B88, Type L; cast- or wrought-copper, solder-joint fittings; and soldered joints.
2. Drawn-temper copper tube, ASTM B88, Type L; copper pressure-seal-joint fittings; and pressure-sealed joints.

E. Aboveground domestic water piping, 2-1/2 inch to 4 inch, shall be one of the following:

1. Drawn-temper copper tube, ASTM B88, Type L; cast- or wrought-copper, solder-joint fittings; and soldered joints.
2. Drawn-temper copper tube, ASTM B88, Type L; copper pressure-seal-joint fittings; and pressure-sealed joints.

## 3.2 INSTALLATION OF PIPING

A. Drawing plans, schematics, and diagrams 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 approved on coordination drawings.

B. Install copper tubing under building slab according to CDA's "Copper Tube Handbook."

C. Install underground copper tube in PE encasement according to ASTM A674 or AWWA C105/A21.5.

D. Install water-pressure-reducing valves downstream from shutoff valves.

E. Install domestic water piping level with 0.25 percent slope downward toward drain and plumb.

F. Rough-in domestic water piping for water-meter installation according to utility company's requirements.

G. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas.

H. 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.

I. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space.

J. Connect runouts to the upper quadrant of the main and run upward at not less than 45 degrees before extending laterally.

K. Install piping to permit valve servicing.

L. 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.

M. Install piping free of sags and bends.

N. Install fittings for changes in direction and branch connections.

O. Install unions in copper tubing at final connection to each piece of equipment, machine, and specialty.

P. Install pressure gauges on suction and discharge piping for each plumbing pump and packaged booster pump.

Q. Install thermostats in hot-water circulation piping.

R. Install thermometers on inlet and outlet piping from each water heater.

S. Install sleeves for piping penetrations of walls, ceilings, and floors.

T. Install sleeve seals for piping penetrations of concrete walls and slabs.

U. Install escutcheons for piping penetrations of walls, ceilings, and floors.

## 3.3 JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

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 according to 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.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

D. Soldered Joints for Copper Tubing: Apply ASTM B813, water-flushable flux to end of tube. Join copper tube and fittings according to ASTM B828 or CDA's "Copper Tube Handbook."

E. Pressure-Sealed Joints for Copper Tubing: Join copper tube and pressure-seal fittings with tools and procedure recommended by pressure-seal-fitting manufacturer. Leave insertion marks on pipe after assembly.

F. 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 according to ASME B31.9.

## 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 1-1/2 inch and Smaller: Fitting-type coupling.
2. Fittings for 2 inch and Larger: Sleeve-type coupling.

## 3.5 INSTALLATION OF HANGERS AND SUPPORTS

A. Install hangers for copper tubing and piping, with maximum horizontal spacing and minimum rod diameters, to comply with MSS-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

B. Support horizontal piping within 12 inches of each fitting.

C. Support vertical runs of copper tubing and piping to comply with MSS-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

## 3.6 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 to exterior water-service piping. Use transition fitting to join dissimilar piping materials.

D. Connect domestic water piping to water-service piping with shutoff valve; extend and connect to the following:

1. Domestic Water Booster Pumps: Cold-water suction and discharge piping.
2. Water Heaters: Cold-water inlet and hot-water outlet piping in sizes indicated, but not smaller than sizes of water heater connections.
3. Plumbing Fixtures: Cold- and hot-water-supply piping in sizes indicated, but not smaller than that required by plumbing code.
4. 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 2-1/2 inch and larger.

## 3.7 IDENTIFICATION

A. Identify system components.

## 3.8 ADJUSTING

A. Perform the following adjustments before operation:

1. Close drain valves, hydrants, and hose bibbs.
2. Open shutoff valves to fully open position.
3. Open throttling valves to proper setting.
4. Adjust balancing valves in hot-water-circulation return piping to provide adequate flow.

    a. Manually adjust ball-type balancing valves in hot-water-circulation return piping to provide hot-water flow in each branch.
    b. Adjust calibrated balancing valves to flows indicated.

5. Remove plugs used during testing of piping and for temporary sealing of piping during installation.
6. Remove and clean strainer screens. Close drain valves and replace drain plugs.
7. Remove filter cartridges from housings and verify that cartridges are as specified for application where used and are clean and ready for use.
8. Check plumbing specialties and verify proper settings, adjustments, and operation.

## 3.9 FIELD QUALITY CONTROL

A. Perform the following 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 roughing in 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. Piping Tests:

   a. Fill domestic water piping. Check components to determine that they are not air bound and that piping is full of water.
   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. Hydrostatic testing and documentation of test results for polypropylene piping to be in accordance with the manufacturer's instructions and submitted to the manufacturer upon successful completion per warranty requirements.
   f. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.
   g. Prepare reports for tests and for corrective action required.

B. Domestic water piping will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

## 3.10 CLEANING

A. Clean and disinfect potable domestic water piping as follows:

1. Purge new piping and parts of existing piping that have been altered, extended, or repaired before using.
2. Use purging and disinfecting procedures prescribed by authorities having jurisdiction; if methods are not prescribed, use procedures described in either AWWA C651 or AWWA C652 or follow procedures described below:

    a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
    b. Fill and isolate system according to either of the following:

        1) Fill system or part thereof with water/chlorine solution with at least 50 ppm of chlorine. Isolate with valves and allow to stand for 24 hours.
        2) Fill system or part thereof with water/chlorine solution with at least 200 ppm of chlorine. Isolate and allow to stand for three hours.

    c. Flush system with clean, potable water until no chlorine is in water coming from system after the standing time.
    d. Repeat procedures if biological examination shows contamination.
    e. Submit water samples in sterile bottles to authorities having jurisdiction.

B. Clean non-potable domestic water piping as follows:

1. Purge new piping and parts of existing piping that have been altered, extended, or repaired before using.
2. Use purging procedures prescribed by authorities having jurisdiction or if methods are not prescribed, follow procedures described below:

    a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
    b. Submit water samples in sterile bottles to authorities having jurisdiction. Repeat procedures if biological examination shows contamination.

C. Prepare and submit reports of purging and disinfecting activities. Include copies of water-sample approvals from authorities having jurisdiction.

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

END OF SECTION

SECTION 221119 - DOMESTIC WATER PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Backflow preventers.
2. Balancing valves.
3. Temperature-actuated, water mixing valves.
4. Strainers for domestic water piping.
5. Drain valves.
6. Water-hammer arresters.
7. Trap-seal primer device.
8. Flexible connectors.
9. Water meters.

1.3 DEFINITIONS

A. AMI: Advanced Metering Infrastructure.

B. AMR: Automatic Meter Reading.

C. FKM: A family of fluroelastomer materials defined by ASTM D1418.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are submitted and tabbed (for combined submittals).

D. Product Data: For each type of product.

E. Shop Drawings: For domestic water piping specialties.

1. Include diagrams for power, signal, and control wiring.

F. Test and inspection reports.

G. Field quality-control reports.

1.5 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.

B. Service Water Meters shall be provided in compliance with Utility Service provider's specifications and requirements.

2.2 PERFORMANCE REQUIREMENTS

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

2.3 BACKFLOW PREVENTERS

A. Reduced-Pressure-Principle Backflow Preventers:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
b. WATTS.
c. Zurn Industries, LLC.
d. Approved equivalent.

2. Standard: ASSE 1013.
3. Operation: Continuous-pressure applications.
4. Pressure Loss: 12 psig maximum, through middle third of flow range.
5. Size: Refer to Drawings.

6. Body: Bronze for 2 inch and smaller; ductile or cast iron with interior lining that complies with AWWA C550 or that is FDA approved for 2-1/2 inch and larger.
7. End Connections: Threaded for 2 inch and smaller; flanged for 2-1/2 inch and larger.
8. Configuration: Designed for horizontal, straight-through flow.
9. Accessories:

    a. Valves 2 inch and Smaller: Ball type with threaded ends on inlet and outlet.
    b. Valves 2-1/2 inch and Larger: Outside-screw and yoke-gate type with flanged ends on inlet and outlet.
    c. Air-Gap Fitting: ASME A112.1.2, matching backflow-preventer connection.

B. Double-Check, Backflow-Prevention Assemblies:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
    b. WATTS.
    c. Zurn Industries, LLC.
    d. Approved equivalent.

2. Standard: ASSE 1015.
3. Operation: Continuous-pressure applications unless otherwise indicated.
4. Pressure Loss: 5 psig maximum, through middle third of flow range.
5. Size: Refer to Drawings.
6. Body: Bronze for 2 inch and smaller; ductile or cast iron with interior lining that complies with AWWA C550 or that is FDA approved for 2-1/2 inch and larger.
7. End Connections: Threaded for 2 inch and smaller; flanged for 2-1/2 inch and larger.
8. Configuration: Designed for horizontal, straight-through flow.
9. Accessories:

    a. Valves 2 inch and Smaller: Ball type with threaded ends on inlet and outlet.
    b. Valves 2-1/2 inch and Larger: Outside-screw and yoke-gate type with flanged ends on inlet and outlet.

C. Backflow-Preventer Test Kits:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
    b. WATTS.
    c. Zurn Industries, LLC.
    d. Approved equivalent.

2. Description: Factory calibrated, with gauges, fittings, hoses, and carrying case with test-procedure instructions.

## 2.4 BALANCING VALVES

A. Memory-Stop Balancing Valves:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
    b. Crane; a Crane Co. brand.
    c. Hammond Valve.
    d. Jenkins Valves; a Crane Co. brand.
    e. Milwaukee Valve Company.
    f. NIBCO INC.
    g. Red-White Valve Corp.
    h. Stockham; a Crane Co. brand.
    i. Approved equivalent.

2. Standard: MSS SP-110 for two-piece, copper-alloy ball valves.
3. Pressure Rating: 400-psig minimum CWP.
4. Size: 2 inch or smaller.
5. Body: Copper alloy.
6. Port: Standard or full port.
7. Ball: Chrome-plated brass or stainless steel.
8. Seats and Seals: Replaceable.
9. End Connections: Solder joint or threaded.
10. Handle: Vinyl-covered steel with memory-setting device.

## 2.5 TEMPERATURE-ACTUATED, WATER MIXING VALVES

A. Primary, Thermostatic, Water Mixing Valves TMV-1:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
    a. Leonard Valve Company.
    b. Approved equivalent.

2. Standard: ASSE 1017.
3. Pressure Rating: 125 psig minimum unless otherwise indicated.
4. Type: Exposed-mounted, thermostatically controlled, water mixing valve.
5. Material: Bronze body with corrosion-resistant interior components.
6. Connections: Threaded inlets and outlet.
7. Accessories: Manual temperature control, check stops on hot- and cold-water supplies, and adjustable, temperature-control handle.
8. Tempered-Water Setting: 120°F.
9. Selected Valve Flow Rate at 45-psig Pressure Drop: 205 GPM.
10. Valve Finish: Rough bronze.
11. Piping Finish: Copper.

B. Water-Temperature Limiting Devices TMV-2, TMV-4:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Leonard Valve Company.
    b. Approved equivalent.

2. Standard: ASSE 1070.
3. Pressure Rating: 125 psig.
4. Type: Thermostatically controlled, water mixing valve.
5. Material: Bronze body with corrosion-resistant interior components.
6. Connections: Threaded inlets and outlet.
7. Accessories: Check stops on hot- and cold-water supplies, and adjustable, temperature-control handle.
8. Tempered-Water Setting: See schedule for details.
9. Valve Finish: Rough bronze.

C. Individual-Fixture, Water Tempering Valves TMV-3:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Acorn Engineering Company; a Division of Morris Group International.
    b. Lawler Manufacturing Company, Inc.
    c. Leonard Valve Company.
    d. POWERS; A WATTS Brand.
    e. Zurn Industries, LLC.
    f. Approved equivalent.

2. Standard: ASSE 1016, thermostatically controlled, water tempering valve.
3. Pressure Rating: 125 psig minimum unless otherwise indicated.
4. Material: Bronze body with corrosion-resistant interior components.
5. Temperature Control: Adjustable.
6. Connections: Threaded inlets and outlet.
7. Finish: Chrome plated.

## 2.6 STRAINERS FOR DOMESTIC WATER PIPING

A. Y-Pattern Strainers:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Keckley Company.
    b. Titan Flow Control, Inc.
    c. WATTS.

d. Zurn Industries, LLC.
e. Approved equivalent.

2. Pressure Rating: 125 psig minimum unless otherwise indicated.
3. Body: Bronze for 2 inch and smaller; cast iron with interior lining that complies with AWWA C550 or that is FDA approved, epoxy coated and for 2-1/2 inch and larger.
4. End Connections: Threaded for 2 inch and smaller; flanged for 2-1/2 inch and larger.
5. Screen: Stainless steel with round perforations unless otherwise indicated.
6. Perforation Size:

a. Strainers 2 inch and Smaller: 31/500 inch.
b. Strainers 2-1/2 inch to 4 inch: 1/8 inch.

7. Drain: Factory-installed, hose-end drain valve.

## 2.7 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: 3/4 inch.
4. Body: Copper alloy.
5. Ball: Chrome-plated brass.
6. Seats and Seals: Replaceable.
7. Handle: Vinyl-covered steel.
8. Inlet: Threaded or solder joint.
9. Outlet: Threaded, short nipple with garden-hose thread complying with ASME B1.20.7 and cap with brass chain.

## 2.8 WATER-HAMMER ARRESTERS

A. Water-Hammer Arresters:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. AMTROL, Inc.
b. Jay R. Smith Mfg Co; a division of Morris Group International.
c. Josam Company.
d. MIFAB, Inc.
e. Precision Plumbing Products.
f. Sioux Chief Manufacturing Company, Inc.
g. WATTS.
h. Zurn Industries, LLC.
i. Approved equivalent.

2. Standard: ASSE 1010 or PDI-WH 201.

3. Type: Piston.
4. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F.

## 2.9 TRAP-SEAL PRIMER DEVICE

A. Drainage-Type, Trap-Seal Primer Device:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Jay R. Smith Mfg Co; a division of Morris Group International.
    b. MIFAB, Inc.
    c. Precision Plumbing Products.
    d. Zurn Industries, LLC.
    e. Approved equivalent.

2. Standard: ASSE 1044, lavatory P-trap with 3/8 inch minimum, trap makeup connection.
3. Size: 1-1/4 inch minimum.
4. Material: Chrome-plated, cast brass.

## 2.10 FLEXIBLE CONNECTORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Flex-Hose Co., Inc.
2. Mason Industries, Inc.
3. Metraflex Company (The).
4. Approved equivalent.

B. Bronze-Hose Flexible Connectors: Corrugated-bronze tubing with bronze wire-braid covering and ends brazed to inner tubing.

1. Working-Pressure Rating: Minimum 200 psig.
2. End Connections 2 inch and Smaller: Threaded copper pipe or plain-end copper tube.
3. End Connections 2-1/2 inch and Larger: Flanged copper alloy.

## 2.11 WATER METERS

A. Compound-Type Water Meters:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Badger Meter, Inc.
    b. Mueller Systems, LLC; a subsidiary of Mueller Water Products, Inc.

c. Neptune Technology Group Inc.
d. Sensus; a Xylem brand.
e. Approved equivalent.

2. Standard: AWWA C702.
3. Pressure Rating: 150-psig working pressure.
4. Body Design: With integral mainline and bypass meters; totalization meter.
5. Registration: In gallons or cubic feet as required by utility company.

a. Remote Registration System: Encoder type complying with AWWA C707; modified with signal-transmitting assembly, low-voltage connecting wiring, and remote register assembly as required by utility company.

1) System shall be capable of transmitting data using AMR/AMI technology.

6. Case: Bronze Coated ductile iron.
7. End Connections: Flanged.

## PART 3 - EXECUTION

### 3.1 INSTALLATION OF PIPING SPECIALTIES

A. Backflow Preventers: Install in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Comply with authorities having jurisdiction.

1. Locate backflow preventers in same room as connected equipment or system.
2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application.
3. Do not install bypass piping around backflow preventers.

B. Balancing Valves: Install in locations where they can easily be adjusted. Set at indicated design flow rates.

C. Temperature-Actuated, Water Mixing Valves: Install with check stops or shutoff valves on inlets and with shutoff valve on outlet.

1. Install cabinet-type units recessed in or surface mounted on wall as specified.

D. Y-Pattern Strainers: For water, install on supply side of each control valve and pump.

E. Water-Hammer Arresters: Install in water piping in accordance with PDI-WH 201.

F. Drainage-Type, Trap-Seal Primer Device: Install as lavatory trap with outlet piping pitched down toward drain trap a minimum of 1 percent, and connect to floor-drain body, trap, or inlet fitting.

## 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 CONTROL CONNECTIONS

A. Connect control wiring.

## 3.4 IDENTIFICATION

A. Plastic Labels for Equipment: Install engraved plastic-laminate equipment nameplate or sign on or near each of the following:

1. Backflow preventers.
2. Balancing valves.
3. Temperature-actuated, water mixing valves.
4. Trap-seal primer device.
5. Water meters.

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.

## 3.5 ADJUSTING

A. Set field-adjustable pressure set points of water pressure-reducing valves.

B. Set field-adjustable flow set points of balancing valves.

C. Set field-adjustable temperature set points of temperature-actuated, water mixing valves.

D. Adjust each reduced-pressure-principle backflow preventer double-check, detector- backflow-prevention assembly in accordance with manufacturer's written instructions, authorities having jurisdiction and the device's reference standard.

## 3.6 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a Company Service Advisor to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform the following tests and inspections.

1. Test each reduced-pressure-principle backflow preventer and double-check, detector-assembly backflow preventer according to authorities having jurisdiction and the device's reference standard.
2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After electrical circuitry has been energized, start units to confirm unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Domestic water piping specialties will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports.

END OF SECTION 221119

SECTION 221316 - SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Hub-and-spigot, cast-iron soil pipe and fittings.
2. Hubless, cast-iron soil pipe and fittings.
3. Encasement for underground metal piping.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are submitted and tabbed (for combined submittals).

D. Product Data: For each type of product.

E. Submit an Environmental Product Declaration (EPD) from the manufacturer for steel pipe within this specification section, if available. A statement of the contractor's good faith effort to obtain the EPD shall be provided if not available.

1. Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 *Environmental labels and declarations*, ISO 14044 *Environmental management – Life cycle assessment*, and ISO 21930 *Core rules for environmental product declarations of construction products and services*.

F. Shop Drawings: For hubless, single-stack drainage system. Include plans, elevations, sections, and details.

G. Seismic Qualification Certificates: For waste and vent piping, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.

2. Detailed description of piping anchorage devices on which the certification is based and their installation requirements.

H. Field quality-control reports.

## 1.4 FIELD CONDITIONS

A. Interruption of Existing Sanitary Waste Service: Do not interrupt service to occupied facilities unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Director's Representative no fewer than 7 days in advance of proposed interruption of service.
2. Do not interrupt service without written permission from Director's Representative.

## 1.5 WARRANTY

A. Listed manufacturers to provide labeling and warranty of their respective products.

# PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:

1. Soil, Waste, and Vent Piping: 10-foot head of water.

## 2.2 PIPING MATERIALS

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

B. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.

## 2.3 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. AB & I Foundry; a part of the McWane family of companies.
2. Charlotte Pipe and Foundry Company.
3. Tyler Pipe; a part of McWane family of companies.
4. Approved equivalent.

B. Pipe and Fittings: ASTM A 74, Extra-Heavy class(es).

C. Gaskets: ASTM C 564, rubber.

D. Caulking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

## 2.4 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. AB & I Foundry; a part of the McWane family of companies.
2. Charlotte Pipe and Foundry Company.
3. Tyler Pipe; a part of McWane family of companies.
4. Approved equivalent.

B. Pipe and Fittings: ASTM A 888 or CISPI 301.

C. Single-Stack Aerator Fittings: ASME B16.45, hubless, cast-iron aerator and deaerator drainage fittings.

D. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Conine Manufacturing Co., Inc.
2. SE Sovent.
3. Approved equivalent.

E. CISPI, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Charlotte Pipe and Foundry Company.
b. Fernco Inc.
c. Josam Company.
d. MIFAB, Inc.
e. Approved equivalent.

2. Standards: ASTM C 1277 and CISPI 310.
3. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

F. Cast-Iron, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Charlotte Pipe and Foundry Company.
b. MG Piping Products Company.

c. Approved equivalent.

2. Standard: ASTM C 1277.
3. Description: Two-piece ASTM A 48, cast-iron housing; stainless-steel bolts and nuts; and ASTM C 564, rubber sleeve with integral, center pipe stop.

## 2.5 ENCASEMENT FOR UNDERGROUND METAL PIPING

A. Standard: ASTM A 674 or AWWA C105/A 21.5.

B. Material: Linear low-density polyethylene film of 0.008-inch, or high-density, cross-laminated polyethylene film of 0.004-inch minimum thickness.

C. Form: Sheet or tube.

D. Color: Black or natural.

# PART 3 - EXECUTION

## 3.1 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems.

1. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations.
2. Install piping as indicated unless deviations to layout are approved on coordination drawings.

B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

C. 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.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

E. Install piping to permit valve servicing.

F. Install piping at indicated slopes.

G. Install piping free of sags and bends.

H. Install fittings for changes in direction and branch connections.

I. Install piping to allow application of insulation.

J. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends.

1. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical.
2. Use long-turn, double Y-branch and 1/8-bend fittings if two fixtures are installed back-to-back or side by side with common drain pipe.

    a. Straight tees, elbows, and crosses may be used on vent lines.

3. Do not change direction of flow more than 90 degrees.
4. Use proper size of standard increasers and reducers if pipes of different sizes are connected.

    a. Reducing size of waste piping in direction of flow is prohibited.

K. Lay buried building waste piping beginning at low point of each system.

1. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream.
2. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
3. Maintain swab in piping and pull past each joint as completed.

L. Install soil and waste and vent piping at the following minimum slopes unless otherwise indicated:

1. Building Sanitary Waste: 1/4 inch per foot downward in direction of flow for piping 2-1/2 inch and smaller; 1/8 inch per foot downward in direction of flow for piping 3 inch and larger.

M. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

1. Install encasement on underground piping according to ASTM A 674 or AWWA C105/A 21.5.

N. Install engineered soil and waste and vent piping systems as follows:

1. Combination Waste and Vent: Comply with standards of authorities having jurisdiction.
2. Hubless, Single-Stack Drainage System: Comply with ASME B16.45 and hubless, single-stack aerator fitting manufacturer's written installation instructions.
3. Reduced-Size Venting: Comply with standards of authorities having jurisdiction.

O. Install force mains at elevations indicated.

P. Plumbing Specialties:

1. Install backwater valves in sanitary waster gravity-flow piping.
2. Install cleanouts at grade and extend to where building sanitary drains connect to building sanitary sewers in sanitary waste gravity-flow piping.

a. Install cleanout fitting with closure plug inside the building in sanitary drainage force-main piping.

3. Install drains in sanitary waste gravity-flow piping.

Q. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

R. Install sleeves for piping penetrations of walls, ceilings, and floors.

S. Install sleeve seals for piping penetrations of concrete walls and slabs.

T. Install escutcheons for piping penetrations of walls, ceilings, and floors.

## 3.2 JOINT CONSTRUCTION

A. Join hub-and-spigot, cast-iron soil piping with gasket joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.

B. Join hub-and-spigot, cast-iron soil piping with calked joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for lead-and-oakum calked joints.

C. Join hubless, cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.

D. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1.

1. Cut threads full and clean using sharp dies.
2. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

a. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
b. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
c. Do not use pipe sections that have cracked or open welds.

E. Grooved Joints: Roll groove ends of pipe according to AWWA C606. Lubricate and install gasket over ends of pipes or pipe and fitting. Install coupling housing sections, over gasket, with keys seated in piping grooves. Install and tighten housing bolts.

F. Flanged Joints: Align bolt holes. Select appropriate gasket material, size, type, and thickness. Install gasket concentrically positioned. Use suitable lubricants on bolt threads. Torque bolts in cross pattern.

## 3.3 INSTALLATION OF HANGERS AND SUPPORTS

A. Comply with requirements for pipe hanger and support devices and installation specified in other sections.

1. Install carbon-steel pipe hangers for horizontal piping in noncorrosive environments.
2. Install stainless-steel pipe hangers for horizontal piping in corrosive environments.
3. Install carbon-steel pipe support clamps for vertical piping in noncorrosive environments.
4. Install stainless-steel pipe support clamps for vertical piping in corrosive environments.
5. Vertical Piping: MSS Type 8 or Type 42, clamps.
6. Install individual, straight, horizontal piping runs:

    a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
    b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
    c. Longer Than 100 Feet if Indicated: MSS Type 49, spring cushion rolls.

7. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
8. Base of Vertical Piping: MSS Type 52, spring hangers.

B. Install hangers for piping, with maximum horizontal spacing and minimum rod diameters, to comply with MSS-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

C. Support horizontal piping and tubing within 12 inches of each fitting, valve, and coupling.

D. Support vertical runs of cast iron soil piping to comply with MSS-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

## 3.4 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect soil and waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.

C. Connect waste and vent piping to the following:

1. Plumbing Fixtures: Connect waste piping in sizes indicated, but not smaller than required by plumbing code.
2. Plumbing Fixtures and Equipment: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
3. Plumbing Specialties: Connect waste and vent piping in sizes indicated, but not smaller than required by plumbing code.
4. Install test tees (wall cleanouts) in conductors near floor and floor cleanouts with cover flush with floor.
5. Equipment: Connect waste piping as indicated.

    a. Provide shutoff valve if indicated and union for each connection.
    b. Use flanges instead of unions for connections 2-1/2 inch and larger.

D. Where installing piping adjacent to equipment, allow space for service and maintenance of equipment.

E. Make connections according to the following unless otherwise indicated:

1. Install unions, in piping 2 inch and smaller, adjacent to each valve and at final connection to each piece of equipment.
2. Install flanges, in piping 2-1/2 inch and larger, adjacent to flanged valves and at final connection to each piece of equipment.

## 3.5 IDENTIFICATION

A. Identify exposed sanitary waste and vent piping.

## 3.6 FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 24 hours 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 roughing-in and before setting fixtures.
2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Reinspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for reinspection.

C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

D. Test sanitary waste and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. Test under minimum head of 10 ft, fill with water for 3 hours.

    a. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.

2. Leave uncovered and unconcealed new, altered, extended, or replaced waste and vent piping until it has been tested and approved.

    a. Expose work that was covered or concealed before it was tested.

3. Roughing-in Plumbing Test Procedure: Test waste and vent piping except outside leaders on completion of roughing-in.

    a. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water.
    b. From 15 minutes before inspection starts to completion of inspection, water level must not drop.
    c. Inspect joints for leaks.

4. Finished Plumbing Test Procedure: After plumbing fixtures have been set and traps filled with water, test connections and prove they are gastight and watertight.

a. Plug vent-stack openings on roof and building drains where they leave building. Introduce air into piping system equal to pressure of 1-inch wg.
b. Use U-tube or manometer inserted in trap of water closet to measure this pressure.
c. Air pressure must remain constant without introducing additional air throughout period of inspection.
d. Inspect plumbing fixture connections for gas and water leaks.

5. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
6. Prepare reports for tests and required corrective action.

## 3.7 CLEANING AND PROTECTION

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect sanitary waste and vent piping during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

D. Repair damage to adjacent materials caused by waste and vent piping installation.

## 3.8 PIPING SCHEDULE

A. Flanges and unions may be used on aboveground pressure piping unless otherwise indicated.

B. Aboveground, storm, soil, waste, and vent piping 2-1/2 inch and smaller shall be one of the following:

1. Hub-and-spigot, Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hubless, cast-iron soil pipe and fittings; CISPI hubless-piping couplings; and coupled joints.

C. Aboveground, storm, soil, waste, and vent piping 3 inch and larger shall be one of the following:

1. Hub-and-spigot, Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hubless, cast-iron soil pipe and fittings; CISPI hubless-piping couplings; and coupled joints.

D. Underground, storm, soil, waste, and vent piping 2-1/2 inch and smaller shall be one of the following:

1. Hub-and-spigot, Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hub-and-spigot, Extra Heavy class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.

E. Underground, storm, soil and waste piping 3 inch and larger shall be one of the following:

1. Hub-and-spigot, Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.

2. Hub-and-spigot, Extra Heavy class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.

END OF SECTION 221316

SECTION 221319 - SANITARY WASTE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Cleanouts.
2. Miscellaneous sanitary drainage piping specialties.

1.3 DEFINITIONS

A. ABS: Acrylonitrile butadiene styrene.

B. PVC: Polyvinyl chloride.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are submitted and tabbed (for combined submittals).

D. Product Data: For each type of product.

E. Shop Drawings:

1. Show fabrication and installation details for frost-resistant vent terminals.

F. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For sanitary waste piping specialties to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTIONS

A. Sanitary waste piping specialties shall bear label, stamp, or other markings of specified testing agency.

B. Comply with NSF 14 for plastic sanitary waste piping specialty components.

2.2 CLEANOUTS

A. Cast-Iron Exposed Cleanouts:

1. Standard: ASME A112.36.2.
2. Size: Same as connected drainage piping.
3. Body Material: Hubless, cast-iron soil pipe test tee as required to match connected piping.
4. Closure: Countersunk or raised-head, brass plug.
5. Closure Plug Size: Same as or not more than one size smaller than cleanout size.

B. Cast-Iron Exposed Floor Cleanouts:

1. Standard: ASME A112.36.2 for adjustable housing cleanout.
2. Size: Same as connected branch.
3. Type: Adjustable housing.
4. Body or Ferrule: Cast iron.
5. Clamping Device: Not required.
6. Outlet Connection: Inside calk.
7. Closure: Brass plug with straight threads and Brass plug with tapered threads.
8. Adjustable Housing Material: Cast iron with setscrews or other device.
9. Frame and Cover Material and Finish: Nickel-bronze, copper alloy.
10. Frame and Cover Shape: Round.
11. Top-Loading Classification: Heavy Duty.
12. Riser: ASTM A74, Service Class, cast-iron drainage pipe fitting and riser to cleanout.
13. Vandal proof fasteners for cover.
14. Top-Loading Classification: Heavy Duty.
15. Vandal proof fasteners for cover.

C. Cast-Iron Wall Cleanouts:

1. Standard: ASME A112.36.2. Include wall access.
2. Size: Same as connected drainage piping.
3. Body: Hubless, cast-iron soil pipe test tee as required to match connected piping.
4. Closure Plug:

    a. Brass.
    b. Countersunk or raised head.
    c. Drilled and threaded for cover attachment screw.
    d. Size: Same as or not more than one size smaller than cleanout size.

5. Wall Access, Cover Plate: Round, flat, chrome-plated brass or stainless steel cover plate with screw.
6. Wall Access, Frame and Cover: Round, nickel-bronze, copper-alloy, or stainless steel wall-installation frame and cover.
7. Vandal proof fasteners for cover.

## 2.3 MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES

A. Floor-Drain, Trap-Seal Primer Fittings:

1. Description: Cast iron, with threaded inlet and threaded or spigot outlet, and trap-seal primer valve connection.
2. Size: Same as floor drain outlet with NPS 1/2 side inlet.

B. Floor-Drain, Inline Trap Seal:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Jay R. Smith Mfg Co; a division of Morris Group International.
    b. Josam Company.
    c. RectorSeal Plumbing; A CSW Industrials Company.
    d. Or equal.

2. Description: Inline floor drain trap seal, forming a physical barrier to slow trap evaporation while not impeding flow from drain.
3. Material: Polymer.
4. Standard: Tested and certified in accordance with ASSE 1072.
5. Listing: UNIFORM CODE-ES or IAPMO listed.
6. Size: Same as floor drain outlet or strainer throat.

C. Air-Gap Fittings:

1. Standard: ASME A112.1.2, for fitting designed to ensure fixed, positive air gap between installed inlet and outlet piping.
2. Body: Bronze or cast iron.
3. Inlet: Opening in top of body.
4. Outlet: Larger than inlet.
5. Size: Same as connected waste piping and with inlet large enough for associated indirect waste piping.

D. Sleeve Flashing Device:

1. Description: Manufactured, cast-iron fitting, with clamping device that forms sleeve for pipe floor penetrations of floor membrane. Include galvanized-steel pipe extension in top of fitting that will extend 2 inches above finished floor and galvanized-steel pipe extension in bottom of fitting that will extend through floor slab.
2. Size: As required for close fit to riser or stack piping.

E. Stack Flashing Fittings:

1. Description: Counterflashing-type, cast-iron fitting, with bottom recess for terminating roof membrane, and with threaded or hub top for extending vent pipe.
2. Size: Same as connected stack vent or vent stack.

F. Vent Caps:

1. Description: Cast-iron body with threaded or hub inlet and vandal-proof design. Include vented hood and setscrews to secure to vent pipe.
2. Size: Same as connected stack vent or vent stack.

G. Expansion Joints:

1. Standard: ASME A112.6.4.
2. Body: Cast iron with bronze sleeve, packing, and gland.
3. End Connections: Matching connected piping.
4. Size: Same as connected soil, waste, or vent piping.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

A. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:

1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
2. Locate at each change in direction of piping greater than 45 degrees.
3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
4. Locate at base of each vertical soil and waste stack.

B. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

C. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.

D. Install floor-drain, trap-seal primer fittings on inlet to floor drains that require trap-seal primer connection.

1. Exception: Fitting may be omitted if trap has trap-seal primer connection.
2. Size: Same as floor drain inlet.

E. Install air-gap fittings on draining-type backflow preventers and on indirect-waste piping discharge into sanitary drainage system.

F. Install sleeve and sleeve seals with each riser and stack passing through floors with waterproof membrane.

G. Install vent caps on each vent pipe passing through roof.

H. Install expansion joints on vertical stacks and conductors. Position expansion joints for easy access and maintenance.

I. Install wood-blocking reinforcement for wall-mounting-type specialties.

J. Install traps on plumbing specialty drain outlets. Omit traps on indirect wastes unless trap is indicated.

## 3.2 PIPING CONNECTIONS

A. Comply with requirements in Section 221316 "Sanitary Waste and Vent Piping" for piping installation requirements. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to equipment, to allow service and maintenance.

## 3.3 LABELING AND IDENTIFYING

A. 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.

1. Nameplates and signs are specified in Section 220553 "Identification for Plumbing Piping and Equipment."

## 3.4 PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 221319

SECTION 221319.13 - SANITARY DRAINS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Floor drains.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are submitted and tabbed (for combined submittals).

D. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 DRAIN ASSEMBLIES

A. Sanitary drains shall bear label, stamp, or other markings of specified testing agency.

B. Sanitary drain connection type for connection to Cast Iron Soil Pipe: Push-on type with manufacturers compression gasket.

C. Sanitary drain connection type for connection to PVC/ABS piping: Socket welded with manufacturers recommended adhesive cement.

2.2 FLOOR DRAINS

A. Cast-Iron Floor Drains FD-1:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Zurn Industries, LLC.
    b. Or equal.

2. Standard: ASME A112.6.3**.**
3. Pattern: Floor drain.
4. Body Material: Gray iron.
5. Seepage Flange: Required.
6. Anchor Flange: Required.
7. Clamping Device: Required.
8. Outlet: Bottom.
9. Backwater Valve: Not required.
10. Coating on Interior and Exposed Exterior Surfaces: Acid-resistant enamel.
11. Sediment Bucket: Not required.
12. Top or Strainer Material: Nickel bronze.
13. Top Shape: Round.
14. Dimensions of Top or Strainer: See schedule for sizes.
15. Funnel: Not required.
16. Inlet Fitting: Not required.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

A. Install floor drains at low points of surface areas to be drained. Set grates of drains flush with finished floor, unless otherwise indicated.

1. Position floor drains for easy access and maintenance.
2. Set floor drains below elevation of surrounding finished floor to allow floor drainage.
3. Set with grates depressed according to the following drainage area radii:

    a. Radius, 30 Inches or Less: Equivalent to 1 percent slope, but not less than 1/4-inch total depression.
    b. Radius, 30 to 60 Inches: Equivalent to 1 percent slope.
    c. Radius, 60 Inches or Larger: Equivalent to 1 percent slope, but not greater than 1-inch total depression.

4. Install floor-drain flashing collar or flange, so no leakage occurs between drain and adjoining flooring.

    a. Maintain integrity of waterproof membranes where penetrated.

5. Install individual traps for floor drains connected to sanitary building drain, unless otherwise indicated.

## 3.2 CONNECTIONS

A. Comply with requirements in Section 221316 "Sanitary Waste and Vent Piping" for piping installation requirements. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Comply with requirements in Section 221319 "Sanitary Waste Piping Specialties" for backwater valves, air admittance devices and miscellaneous sanitary drainage piping specialties.

C. Comply with requirements in Section 221323 "Sanitary Waste Interceptors" for grease interceptors, grease-removal devices, oil interceptors, sand interceptors, and solid interceptors.

D. Install piping adjacent to equipment to allow service and maintenance.

E. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

F. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

## 3.3 LABELING AND IDENTIFYING

A. 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 220553 "Identification for Plumbing Piping and Equipment."

## 3.4 PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 221319.13

SECTION 221413 - FACILITY STORM DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Hub-and-spigot, cast-iron soil pipe and fittings.
2. Hubless, cast-iron soil pipe and fittings.
3. Specialty pipe and fittings.
4. Encasement for underground metal piping.

1.3 ACTION SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Detail storm drainage piping. Show support locations, type of support, weight on each support, required clearances, and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Structural members to which drainage piping will be attached or suspended from.

B. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:

1. Storm Drainage Piping: 10-foot head of water (30 kPa).

2.2 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. AB & I Foundry; a part of the McWane family of companies.
2. Charlotte Pipe and Foundry Company.
3. Tyler Pipe; a part of McWane family of companies.
4. Approved equivalent.

B. Pipe and Fittings:

1. Marked with CISPI collective trademark and NSF certification mark.
2. Class: ASTM A 74 “Standard Specification for Cast Iron Soil Pipe and Fittings”, Service class.

C. Gaskets: ASTM C 564 “Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings”, rubber.

D. Caulking Materials: ASTM B 29 “Standard Specification for Refined Lead”, pure lead and oakum or hemp fiber.

2.3 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. AB & I Foundry; a part of the McWane family of companies.
2. Charlotte Pipe and Foundry Company.
3. Tyler Pipe; a part of McWane family of companies.
4. Approved equivalent.

B. Pipe and Fittings:

1. Marked with CISPI collective trademark and NSF certification mark.
2. Standard: ASTM A 888 “Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications “ or CISPI 301.

C. CISPI, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

   a. Charlotte Pipe and Foundry Company.
   b. Ideal Tridon Group.
   c. MIFAB, Inc.
   d. Approved equivalent.

2. Couplings shall bear CISPI collective trademark.
3. Standards: ASTM C 1277 and CISPI 310.
4. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

2.4 CAST-IRON, HUBLESS PIPING COUPLINGS:

A. Standard; ASTM C1277 “Standard Specification for Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings”.

B. Description: Two piece ASTM A 48/A 48M “Standard Specification for Gray Iron Castings”, cast iron housing; stainless steel bolts and nuts; and ASTM C 564 “Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings”, rubber sleeve with integral, center pipe stop.

2.5 GALVANIZED-STEEL PIPE AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. U.S. Steel.
2. Wheatland Tube; Zekelman Industries.
3. Approved equivalent.

B. Pipe: ASTM A 53/A 53M, Type E “Standard Specification for Pipe, Steel, Black and Hot-Dipper, Zinc-Coated, Welded and Seamless”, Standard Weight class. Include square-cut-grooved or threaded ends matching joining method.

C. Galvanized-Cast-Iron Drainage Fittings: ASME B16.12 “Cast Iron Threaded Drainage Fittings”, threaded.

D. Steel-Pipe Pressure Fittings:

1. Galvanized-Steel Pipe Nipples: ASTM A 733 “Standard Specification for Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples”, made of ASTM A 53/A 53M “Standard Specification for Pipe, Steel, Black and Hot-Dipper, Zinc-Coated, Welded and Seamless” or ASTM A 106/A 106M “Standard Specification for Seamless Pressure Pipe”, Schedule 40, seamless steel pipe. Include ends matching joining method.

2. Malleable-Iron Unions: ASME B16.39 “Malleable Iron Threaded Pipe Unions: Classes 150, 250, and 300”; Class 150; hexagonal-stock body with ball-and-socket, metal-to-metal, bronze seating surface; and female threaded ends.
3. Galvanized-Gray-Iron, Threaded Fittings: ASME B16.4 “Gray Iron Threaded Fittings Classes 125 and 250”, Class 125, standard pattern.

E. Cast-Iron Flanges: ASME B16.1 “Gray Iron Pipe Flanges and Flanges Fittings Classes 25, 125 and 250”, Class 125.

1. Flange Gasket Materials: ASME B16.21 “Nonmetallic Flat Gaskets for Pipe Flanges”, full-face, flat, nonmetallic, asbestos-free, 1/8-inch (3.2-mm) maximum thickness unless thickness or specific material is indicated.
2. Flange Bolts and Nuts: ASME B18.2.1 “Square, Hex, Heavy Hex, and Askew Head Bolts and Hex, Heavy Hex, Hex Flange, Lobed Head, and Lag Screws”, carbon steel unless otherwise indicated.

F. Grooved-Joint, Galvanized-Steel-Pipe Appurtenances

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

   a. Apollo Valves; a part of Aalberts Integrated Piping Systems.
   b. Shurjoint; a part of Aalberts Integrated piping Systems.
   c. Smith-Cooper International.
   d. Approved equivalent.

2. Galvanized, Grooved-End Fittings for Galvanized-Steel Piping: ASTM A 536 “Standard Specification for Ductile Iron Castings” ductile-iron castings, ASTM A 47 /A 47M “Standard Specification for Ferritic Malleable Iron Castings” malleable-iron castings, ASTM A 234/A 234M “Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service” forged-steel fittings, or ASTM A 106 /A 106M “Standard Specification for Seamless Pressure Pipe” steel pipes with dimensions matching ASTM A 53/A 53M “Standard Specification for Pipe, Steel, Black and Hot-Dipper, Zinc-Coated, Welded and Seamless” steel pipe, and complying with AWWA C606 “Standard for Grooved and Shouldered Joints” for grooved ends.
3. Grooved Mechanical Couplings for Galvanized-Steel Piping: ASTM F 1476 “Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications”, Type I. Include ferrous housing sections with continuous curved keys; EPDM-rubber gasket suitable for hot and cold water; and bolts and nuts.

## 2.6 SPECIALTY PIPE FITTINGS

A. Transition Couplings:

1. General Requirements: Fitting or device for joining piping with small differences in ODs or of different materials. Include end connections same size as and compatible with pipes to be joined.
2. Fitting-Type Transition Couplings: Manufactured piping coupling or specified-piping-system fitting.

3. Unshielded, Nonpressure Transition Couplings:

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1) Dallas Specialty & Mfg. Co.
2) Fernco Inc.
3) Mission Rubber Company, LLC; a division of MCP Industries.
4) Approved equivalent.

b. Standard: ASTM C 1173 "Standard Specification for Flexible Transition Couplings for Underground Piping Systems".
c. Description: Elastomeric sleeve, reducing or transition pattern. Include shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.
d. Sleeve Materials:

1) For Cast-Iron Soil Pipes: ASTM C 564 "Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings", rubber.

4. Shielded, Nonpressure Transition Couplings:

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1) Mission Rubber Company, LLC; a division of MCP Industries.
2) Fernco, Inc.
3) Matco-Norca
4) Approved equivalent.

b. Standard: ASTM C 1460 "Standard Specification for Shielded Transition Couplings for Use with Dissimilar DWV Pipe and Fittings Above Ground".
c. Description: Elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.
d. End Connections: Same size as and compatible with pipes to be joined.

## PART 3 - EXECUTION

### 3.1 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems.

1. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations.
2. Install piping as indicated unless deviations from layout are approved on coordination drawings.

B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

C. 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.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

E. Install piping to permit valve servicing.

F. Install piping at indicated slopes.

G. Install piping free of sags and bends.

H. Install fittings for changes in direction and branch connections.

I. Install piping to allow application of insulation.

J. Make changes in direction for piping using appropriate branches, bends, and long-sweep bends.

1. Do not change direction of flow more than 90 degrees.
2. Use proper size of standard increasers and reducers if pipes of different sizes are connected.

    a. Reducing size of drainage piping in direction of flow is prohibited.

K. Lay buried building piping beginning at low point of each system.

1. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream.
2. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
3. Maintain swab in piping and pull past each joint as completed.

L. Install piping at the following minimum slopes unless otherwise indicated:

1. Building Storm Drain: 2 percent downward in direction of flow for piping NPS 3 (DN 80) and smaller; 1 percent downward in direction of flow for piping NPS 4 (DN 100) and larger.
2. Horizontal Storm Drainage Piping: 2 percent downward in direction of flow.

M. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

N. Plumbing Specialties:

1. Install cleanouts at grade and extend to where building storm drains connect to building storm sewers in storm drainage gravity-flow piping.

    a. Install cleanout fitting with closure plug inside the building in storm drainage force-main piping.

b. Comply with requirements for cleanouts specified in Section 221423 "Storm Drainage Piping Specialties."

2. Install drains in storm drainage gravity-flow piping.

a. Comply with requirements for drains specified in Section 221423 "Storm Drainage Piping Specialties."

O. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

P. Install sleeves for piping penetrations of walls, ceilings, and floors.

1. Comply with requirements for sleeves specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."

Q. Install sleeve seals for piping penetrations of concrete walls and slabs.

1. Comply with requirements for sleeve seals specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."

R. Install escutcheons for piping penetrations of walls, ceilings, and floors.

1. Comply with requirements for escutcheons specified in Section 220518 "Escutcheons for Plumbing Piping."

## 3.2 JOINT CONSTRUCTION

A. Hub-and-Spigot, Cast-Iron Soil Piping Gasketed Joints: Join according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.

B. Hub-and-Spigot, Cast-Iron Soil Piping Caulked Joints: Join according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for lead-and-oakum caulked joints.

C. Hubless, Cast-Iron Soil Piping Coupled Joints:

1. Join according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.

## 3.3 SPECIALTY PIPE FITTING INSTALLATION

A. Transition Couplings:

1. Install transition couplings at joints of piping with small differences in ODs.
2. In Drainage Piping: Shielded, nonpressure transition couplings.
3. In Aboveground Force-Main Piping: Fitting-type transition couplings.
4. In Underground Force-Main Piping:

a. NPS 1-1/2 (DN 40) and Smaller: Fitting-type transition couplings.

b. NPS 2 (DN 50) and Larger: Pressure transition couplings.

## 3.4 INSTALLATION OF HANGERS AND SUPPORTS

A. Comply with requirements for hangers, supports, and anchor devices specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."

1. Install carbon-steel pipe hangers for horizontal piping in noncorrosive environments.
2. Install carbon-steel pipe support clamps for vertical piping in noncorrosive environments.
3. Install stainless-steel pipe support clamps for vertical piping in corrosive environments.
4. Vertical Piping: MSS Type 8 or Type 42, clamps.
5. Install individual, straight, horizontal piping runs:

    a. 100 Feet (30 m) and Less: MSS Type 1, adjustable, steel clevis hangers.
    b. Longer Than 100 Feet (30 m): MSS Type 43, adjustable roller hangers.
    c. Longer Than 100 Feet (30 m) if Indicated: MSS Type 49, spring cushion rolls.

6. Multiple, Straight, Horizontal Piping Runs 100 Feet (30 m) or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
7. Base of Vertical Piping: MSS Type 52, spring hangers.

B. Install hangers for cast-iron soil tubing and piping, with maximum horizontal spacing and minimum rod diameters, to comply with MSS-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

C. Support horizontal piping and tubing within 12 inches (300 mm) of each fitting and coupling.

D. Support vertical cast-iron tubing and piping to comply with MSS-58 “Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation”, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent, but as a minimum at base and at each floor.

## 3.5 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect interior storm drainage piping to exterior storm drainage piping. Use transition fitting to join dissimilar piping materials.

C. Connect storm drainage piping to roof drains and storm drainage specialties.

1. Install test tees (wall cleanouts) in conductors near floor, and floor cleanouts with cover flush with floor.
2. Comply with requirements for cleanouts and drains specified in Section 221423 "Storm Drainage Piping Specialties."

D. Where installing piping adjacent to equipment, allow space for service and maintenance.

E. Make connections according to the following unless otherwise indicated:

1. Install unions, in piping NPS 2 (DN 50) and smaller, adjacent to each valve and at final connection to each piece of equipment.
2. Install flanges, in piping NPS 2-1/2 (DN 65) and larger, adjacent to flanged valves and at final connection to each piece of equipment.

## 3.6 IDENTIFICATION

A. Identify exposed storm drainage piping.

B. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."

## 3.7 FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 24 hours 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 roughing-in.
2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Test storm drainage piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired.

    a. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.

2. Leave uncovered and unconcealed new, altered, extended, or replaced storm drainage piping until it has been tested and approved.

    a. Expose work that was covered or concealed before it was tested.

3. Test Procedure:

    a. Test storm drainage piping, except outside leaders, on completion of roughing-in.
    b. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water (30 kPa). From 15 minutes before inspection starts until completion of inspection, water level must not drop. Inspect joints for leaks.

4. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
5. Prepare reports for tests and required corrective action.

C. Piping will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

## 3.8 CLEANING AND PROTECTION

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

## 3.9 PIPING SCHEDULE

A. Aboveground storm drainage piping NPS 6 (DN 150) and smaller shall be the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hubless, cast-iron soil pipe and fittings; CISPI, hubless-piping couplings; and coupled joints.

B. Aboveground, storm drainage piping NPS 8 (DN 200) and larger shall be the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hubless, cast-iron soil pipe and fittings; CISPI, hubless-piping couplings; and coupled joints.

C. Underground storm drainage piping NPS 6 (DN 150) and smaller shall be the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed, or caulking materials; and caulked joints.
2. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.

D. Underground, storm drainage piping NPS 8 (DN 200) and larger shall be the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed or caulking materials; and caulked joints.
2. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.

END OF SECTION 221413

SECTION 221429 - SUMP PUMPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Submersible sump pumps.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles. Include rated capacities, operating characteristics, electrical characteristics, furnished specialties and accessories, and installation instructions for the sump basin, frame, and cover.

E. Shop Drawings:

1. Include plans, elevations, sections, and mounting details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
4. Include diagrams for power, signal, and control wiring.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For pumps and controls, to include in operation and maintenance manuals.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Retain shipping flange protective covers and protective coatings during storage.

B. Protect bearings and couplings against damage.

C. Comply with manufacturer's written instructions for handling.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. UL Compliance: Comply with UL 778 for motor-operated water pumps.

2.2 SUBMERSIBLE SUMP PUMPS

A. Submersible, Fixed-Position, Double-Seal Sump Pumps SP-1

1. Description: Factory-assembled and -tested sump-pump unit.
2. Pump Type: Floor mounted submersible pump.
3. Pump Casing: Cast iron, with strainer inlet, legs that elevate pump to permit flow into impeller, and vertical discharge for piping connection.
4. Impeller: Statically and dynamically balanced, cast iron, semi-open design for clear wastewater handling, and keyed and secured to shaft.
5. Pump and Motor Shaft: Stainless steel, with factory-sealed, grease-lubricated ball bearings.
6. Seals: Double Seal – Tandem, upper to contain carbon against ceramic, lower to contain silicon carbide against silicon carbide.

    a. Motor Housing Fluid: Air filled hermetically sealed

7. Controls:

    a. Enclosure: NEMA Type 4X.
    b. Switch Type: Pedestal-mounted float switch with float rods and rod buttons.
    c. Automatic Alternator: Start pumps on successive cycles and start multiple pumps if one cannot handle load.
    d. Float Guides: Pipe or other restraint for floats and rods in basins of depth greater than 60 inches.
    e. High-Water Alarm: Cover-mounted, compression-probe alarm, with electric bell; 120 V ac, with transformer and contacts for remote alarm bell.

8. Control-Interface Features:

    a. Remote Alarm Contacts: For remote alarm interface.

b. Building Automation System Interface: Auxiliary contacts in pump controls for interface to building automation system and capable of providing the following:

1) On-off status of pump.
2) Alarm status.

## 2.3 SUMP-PUMP CAPACITIES AND CHARACTERISTICS

A. Unit Capacity: 150 gpm.

B. Number of Pumps: One.

C. Each Pump:

1. Capacity: 150 gpm.
2. Total Dynamic Head: 150 feet.
3. Speed: 1750.
4. Discharge Size: 3 NPS.
5. Electrical Characteristics:

a. Motor Horsepower: 3 hp.
b. Volts: 480 V ac.
c. Phases: Three.
d. Hertz: 60.

D. Unit Electrical Characteristics:

1. Full-Load Amperes: 6.3 A.

## 2.4 MOTORS

A. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 220513 "Common Motor Requirements for Plumbing Equipment."

1. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.

B. Motors for submersible pumps shall be hermetically sealed.

# PART 3 - EXECUTION

## 3.1 EARTHWORK

A. Excavation and filling are specified in Section 312000 "Earth Moving."

## 3.2 EXAMINATION

A. Examine roughing-in for plumbing piping to verify actual locations of storm drainage piping connections before sump pump installation.

## 3.3 INSTALLATION

A. Pump Installation Standards: Comply with HI 1.4 for installation of sump pumps and in full accordance with the manufacturer’s printed installation instructions unless otherwise specified.

## 3.4 CONNECTIONS

A. Comply with requirements for piping specified in Section 221413 "Facility Storm Drainage Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to equipment, allow space for service and maintenance.

## 3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a Company Service Advisor to test, inspect, and adjust components, assemblies, and equipment installations, including connections.

B. Perform the following tests and inspections:

1. Perform each visual and mechanical inspection.
2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Pumps and controls will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

## 3.6 STARTUP SERVICE

A. Engage a Company Service Advisor to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

## 3.7 ADJUSTING

A. Adjust pumps to function smoothly and lubricate as recommended by manufacturer.

B. Adjust control set points.

3.8 DEMONSTRATION

A. Engage a Company Service Advisor to train Director’s Representative's maintenance personnel to adjust, operate, and maintain controls and pumps.

END OF SECTION 221429

8SECTION 224000 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Water closets.
2. Urinals.
3. Lavatories.
4. Sinks.
5. Service sinks.
6. Drinking fountains.
7. Showers.

B. Related Sections:

1. Section 079200 - Joint Sealants: Product requirements for calking between fixtures and building components for placement by this Section.
2. Execution requirements for electric connections to sensor valves and faucets.

1.2 REFERENCES

A. American National Standards Institute:

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ANSI Z124.1 - Plastic Bathtub Units.
3. ANSI Z124.2 - Plastic Shower Units.
4. ANSI Z358.1 - Emergency Eyewash and Shower Equipment.

B. Air-Conditioning and Refrigeration Institute:

1. ARI 1010 - Self-Contained, Mechanically Refrigerated Drinking-Water Coolers.

C. American Society of Mechanical Engineers:

1. ASME A112.6.1 - Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use.
2. ASME A112.18.1 - Plumbing Fixture Fittings.
3. ASME A112.19.1M - Enameled Cast Iron Plumbing Fixtures.
4. ASME A112.19.2M - Vitreous China Plumbing Fixtures.
5. ASME A112.19.3 - Stainless Steel Plumbing Fixtures (Designed for Residential Use).
6. ASME A112.19.4 - Porcelain Enameled Formed Steel Plumbing Fixtures.
7. ASME A112.19.5 - Trim for Water-Closet Bowls, Tanks and Urinals.

## 1.3 SUBMITTALS

A. Product Data: Submit catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.

B. Samples: Submit two lavatory supply fittings, fixtures for color matching, sets of color chips for each standard color.

C. Manufacturer's Installation Instructions: Submit installation methods and procedures.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

E. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

F. Manufacturer’s installation instructions shall be provided along with product data.

G. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

## 1.4 CLOSEOUT SUBMITTALS

1. Operation and Maintenance Data:

    1. Submit fixture, trim, exploded view, and replacement parts lists.

## 1.5 QUALITY ASSURANCE

A. Perform Work according to State of New York Public Works standard.

B. Provide products requiring electrical connections listed and classified by testing firm acceptable to authority having jurisdiction as suitable for purpose specified and indicated.

C. Provide plumbing fixture fittings according to ASME A112.18.1 “Plumbing Fixture Fittings” that prevent backflow from fixture into water distribution system.

D. Maintain one copy of each document on Site.

## 1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience and with service facilities within 100 miles of Project.

B. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience and approved by manufacturer.

1.7 MOCKUPS

A. Quality Requirements: Mockup requirements.

1. Construct mockup of typical bathroom group.
2. Locate where directed by Director's Representative or as indicated on Drawings.
3. Incorporate accepted mockup as part of Work.
4. Remove mockup when directed by Director's Representative.

1.8 PRE-INSTALLATION MEETINGS

A. Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing Work of this Section.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Materials and Equipment:

1. Product storage and handling requirements.

B. Accept fixtures on Site in factory packaging. Inspect for damage.

C. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.10 WARRANTY

A. Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish five-year manufacturer warranty for plumbing fixtures.

1.11 EXTRA MATERIALS

A. Execution and Closeout Requirements: Spare parts and maintenance products.

B. Furnish two sets of faucet washers, flush valve service kits, lavatory supply fittings, shower heads, toilet seats.

PART 2 - PRODUCTS

2.1 FLUSH VALVE WATER CLOSETS

A. Refer to specification section 224213.13 Commercial Water Closets.

2.2 WALL HUNG URINALS

A. Refer to specification section 224213.16 Commercial Urinals.

2.3 LAVATORIES

A. Refer to specification section 224216.13 Commercial Lavatories.

2.4 SINKS

A. Refer to specification section 224216.16 Commercial Sinks.

2.5 SHOWERS

A. Refer to specification section 224223.0 Commercial Shower.

2.6 DRINKING FOUNTAINS

A Refer to specification section 224713.0 Drinking fountains.

2.7 LAVATORY INSULATION KIT

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. American Standard, Inc.
2. Eljer; A Household International Co.
3. Kohler Co.
4. Approved Equivalent.

B. Product Description: Where Lavatories are noted to be insulated for ADA compliance, furnish the following: Safety Covers conforming to ANSI A117.1 “Accessible and Usable Buildings and Facilities” and consisting of insulation kit of molded closed cell vinyl construction, 3/16 inch thick, white color, for insulating tailpiece, P-trap, valves, and supply piping. Furnish with weep hole and angle valve access covers.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 013000 - Administrative Requirements: Coordination and project conditions.

B. Verify walls and floor finishes are prepared and ready for installation of fixtures.

C. Verify electric power is available and of correct characteristics.

D. Confirm millwork is constructed with adequate provision for installation of counter top lavatories and sinks.

## 3.2 PREPARATION

A. Rough-in fixture piping connections according to minimum sizes indicated in fixture rough-in schedule for particular fixtures.

## 3.3 INSTALLATION

A. Install Work according to State of New York Public Works standards.

B. Install each fixture with trap, easily removable for servicing and cleaning.

C. Provide chrome-plated rigid or flexible supplies to fixtures with loose key stops, reducers, and escutcheons.

D. Install components level and plumb.

E. Install and secure fixtures in place with wall carriers and bolts.

F. Seal fixtures to wall and floor surfaces with sealant as specified in Section 079000, color to match fixture.

G. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

H. For ADA accessible water closets, install flush valve with handle to wide side of stall.

## 3.4 INTERFACE WITH OTHER PRODUCTS

A. Review millwork shop-drawings. Confirm location and size of fixtures and openings before rough in and installation.

## 3.5 ADJUSTING

A. Section 017000 - Execution and Closeout Requirements: Testing, adjusting, and balancing:

1. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

## 3.6 CLEANING

A. Clean plumbing fixtures and equipment.

## 3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Protecting installed construction.

B. Do not permit use of fixtures before final acceptance.

## 3.8 SCHEDULES

A. Refer to C-contract drawings for standard and ADA mounting heights

B. Fixture Rough-In:

1. Water Closet Flush Valve:

    1. Cold: 1 inch.
    2. Waste: 4 inches.
    3. Vent: 2 inches.

2. Urinal Flush Valve:

    1. Cold: 3/4 inch.
    2. Waste: 2 inches.
    3. Vent: 2 inches.

3. Lavatory:

    1. Hot: 1/2 inch.
    2. Cold: 1/2 inch.
    3. Waste: 2 inches.
    4. Vent: 2 inches.

4. Sink:

    1. Hot: 1/2 inch.
    2. Cold: 1/2 inch.
    3. Waste: 2 inches.
    4. Vent: 2 inches.

5. Service Sink:

    1. Hot: 3/4 inch.
    2. Cold: 3/4 inch.
    3. Waste: 3 inches.
    4. Vent: 2 inches.

6. Drinking Fountain:

    1. Cold: 1/2 inch.
    2. Waste: 2 inches.
    3. Vent: 2 inches.

7. Shower:

    1. Hot: 1/2 inches.
    2. Cold: 1/2 inch.
    3. Waste: 2 inches.
    4. Vent: 2 inches.

END OF SECTION 224000

SECTION 224213.13 - COMMERCIAL WATER CLOSETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Wall-mounted water closets.
2. Flushometer valves.
3. Toilet seats.
4. Supports.

1.3 DEFINITIONS

A. Effective Flush Volume: Average of two reduced flushes and one full flush per fixture.

B. Remote Water Closet: Located more than 30 feet from other drain line connections or fixture and where less than 1.5 drainage fixture units are upstream of the drain line connection.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for water closets, and samples where requested.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For flushometer valves to include in operation and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.

1. Flushometer-Valve Repair Kits: Equal to 10 percent of amount of each type installed, but no fewer than six of each type.

PART 2 - PRODUCTS

2.1 WALL-MOUNTED WATER CLOSETS

A. Water Closets, Wall Mounted, Top Spud, Accessible WC-1A:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
   a. Kohler Co.
   b. American Standard.
   c. Gerber Plumbing Fixtures LLC.
   d. Sloan Valve Company.
   e. TOTO USA, INC.
   f. Zurn Industries, LLC.
   g. Approved equivalent.

2. Bowl:

   a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
   b. Material: Vitreous china.
   c. Type: Siphon jet.
   d. Style: Flushometer valve.
   e. Height: Standard.
   f. Rim Contour: Elongated.
   g. Water Consumption: 1.28 gal. per flush.
   h. Spud Size and Location: 1-1/2 inch; top.

3. Flushometer Valve: WC-1A.
4. Toilet Seat: WC-1A.
5. Support: Water closet carrier.
6. Water-Closet Mounting Height: Handicapped/elderly according to UNIFORM CODE/ANSI A117.1.

2.2 FLUSHOMETER VALVES

A. Lever-Handle, Diaphragm Flushometer Valves WC-1A.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Sloan Valve Company.
    b. Zurn Industries, LLC.
    c. Approved equivalent.

2. Standard: ASSE 1037.
3. Minimum Pressure Rating: 125 psig.
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Consumption: 1.28 gal. per flush.
9. Minimum Inlet: 1 inch.
10. Minimum Outlet: 1-1/4 inch.

## 2.3 TOILET SEATS

A. Toilet Seats WC-1A:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. American Standard.
    b. Kohler Co.
    c. TOTO USA, INC.
    d. Zurn Industries, LLC.
    e. Approved equivalent.

2. Standard: IAPMO/ANSI Z124.5.
3. Material: Plastic.
4. Type: Commercial (Standard).
5. Shape: Elongated rim, open front.
6. Hinge: Check.
7. Hinge Material: Noncorroding metal.
8. Seat Cover: Not required.
9. Color: White.

## 2.4 SUPPORTS

A. Water Closet Carrier:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Jay R. Smith Mfg Co; a division of Morris Group International.
b. Josam Company.
c. MIFAB, Inc.
d. WATTS.
e. Zurn Industries, LLC.
f. Approved equivalent.

2. Standard: ASME A112.6.1.
3. Description: Waste-fitting assembly, as required to match drainage piping material and arrangement with faceplates, couplings gaskets, and feet; bolts and hardware matching fixture.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before water-closet installation.

B. Examine walls and floors for suitable conditions where water closets will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION, GENERAL

A. Water-Closet Installation:

1. Install level and plumb according to roughing-in drawings.
2. Install floor-mounted water closets on bowl-to-drain connecting fitting attachments to piping or building substrate.
3. Install accessible, wall-mounted water closets at mounting height for handicapped/elderly, according to UNIFORM CODE/ANSI A117.1.

B. Support Installation:

1. Install supports, affixed to building substrate, for floor-mounted, back-outlet water closets.
2. Use carrier supports with waste-fitting assembly and seal.
3. Install floor-mounted, back-outlet water closets attached to building floor substrate, onto waste-fitting seals; and attach to support.
4. Install wall-mounted, back-outlet water-closet supports with waste-fitting assembly and waste-fitting seals; and affix to building substrate.

C. Flushometer-Valve Installation:

1. Install flushometer-valve, water-supply fitting on each supply to each water closet.
2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.
3. Install lever-handle flushometer valves for accessible water closets with handle mounted on open side of water closet.

4. Install actuators in locations that are easy for people with disabilities to reach.
5. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

D. Install toilet seats on water closets.

E. Wall Flange and Escutcheon Installation:

1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork.
2. Install deep-pattern escutcheons if required to conceal protruding fittings.

F. Joint Sealing:

1. Seal joints between water closets and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to water-closet color.

## 3.3 CONNECTIONS

A. Connect water closets with water supplies and soil, waste, and vent piping. Use size fittings required to match water closets.

B. Where installing piping adjacent to water closets, allow space for service and maintenance.

## 3.4 ADJUSTING

A. Operate and adjust water closets and controls. Replace damaged and malfunctioning water closets, fittings, and controls.

B. Adjust water pressure at flushometer valves to produce proper flow.

C. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

## 3.5 CLEANING AND PROTECTION

A. Clean water closets and fittings with manufacturers' recommended cleaning methods and materials.

B. Install protective covering for installed water closets and fittings.

C. Do not allow use of water closets for temporary facilities unless approved in writing by Director’s Representative.

END OF SECTION 224213.13

SECTION 224213.16 - COMMERCIAL URINALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Stall urinals.
2. Wall-hung urinals.
3. Urinal flushometer valves.
4. Supports.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for urinals.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For flushometer valves to include in operation and maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.

1. Flushometer-Valve Repair Kits: Equal to 10 percent of amount of each type installed, but no fewer than one of each type.

## PART 2 - PRODUCTS

### 2.1 WALL-HUNG URINALS

A. Urinals - Wall Hung, Back Outlet, Siphon Jet: Accessible UR-1A.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Kohler Co.
   b. Zurn Industries, LLC.
   c. American Standard.
   d. Approved equivalent.

2. Fixture:

   a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5/CSA B45.15.
   b. Material: Vitreous china.
   c. Type: Siphon jet.
   d. Strainer or Trapway: Manufacturer's standard strainer with integral trap.
   e. Water Consumption: 1.0 gpf.
   f. Outlet Size and Location: NPS 2; back.
   g. Color: White.

3. Flushometer Valve: UR-1A.
4. Waste Fitting:

   a. Standard: ASME A112.18.2/CSA B125.2 for coupling.
   b. Size: NPS 2.

5. Support: Type I urinal carrier with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. Include rectangular, steel uprights.
6. Urinal Mounting Height: Handicapped/elderly according to UNIFORM CODE A117.1.

### 2.2 URINAL FLUSHOMETER VALVES

A. Lever-Handle, Diaphragm Flushometer Valves: UR-1A.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Zurn Industries, LLC.
   b. Advanced Modern Technologies Corporation - AMTC.
   c. American Standard.
   d. Approved equivalent.

2. Standard: ASSE 1037/ASME 112.1037/CSA B125.37.
3. Minimum Pressure Rating: 125 psig.
4. Features: Include integral check stop and backflow-prevention device.
5. Material: Brass body with corrosion-resistant components.
6. Exposed Flushometer-Valve Finish: Chrome plated.
7. Style: Exposed.
8. Consumption: 1.0 gal.
9. Minimum Inlet: NPS 3/4.
10. Minimum Outlet: NPS 3/4.

## 2.3 SUPPORTS

A. Type I Urinal Carrier:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Josam Company.
b. WATTS.
c. Zurn Industries, LLC.
d. Approved equivalent.

2. Standard: ASME A112.6.1.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before urinal installation.

B. Examine walls and floors for suitable conditions where urinals will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

A. Urinal Installation:

1. Install urinals level and plumb according to rough-in drawings.
2. Install wall-hung, back-outlet urinals onto waste fitting seals and attached to supports.
3. Install wall-hung, bottom-outlet urinals with tubular waste piping attached to supports.
4. Install accessible, wall-mounted urinals at mounting height for the handicapped/elderly, according to UNIFORM CODE A117.1.
5. Install trap-seal liquid in waterless urinals.

B. Support Installation:

1. Install supports, affixed to building substrate, for wall-hung urinals.
2. Use off-floor carriers with waste fitting and seal for back-outlet urinals.
3. Use carriers without waste fitting for urinals with tubular waste piping.
4. Use chair-type carrier supports with rectangular steel uprights for accessible urinals.

C. Flushometer-Valve Installation:

1. Install flushometer-valve water-supply fitting on each supply to each urinal.
2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.
3. Install lever-handle flushometer valves for accessible urinals with handle mounted on open side of compartment.

D. Wall Flange and Escutcheon Installation:

1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations.
2. Install deep-pattern escutcheons if required to conceal protruding fittings.
3. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

E. Joint Sealing:

1. Seal joints between urinals and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to urinal color.
3. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

## 3.3 PIPING CONNECTIONS

A. Connect urinals with water supplies and soil, waste, and vent piping. Use size fittings required to match urinals.

B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

D. Where installing piping adjacent to urinals, allow space for service and maintenance.

## 3.4 ADJUSTING

A. Operate and adjust urinals and controls. Replace damaged and malfunctioning urinals, fittings, and controls.

B. Adjust water pressure at flushometer valves to produce proper flow.

3.5 CLEANING AND PROTECTION

A. Clean urinals and fittings with manufacturers' recommended cleaning methods and materials.

B. Install protective covering for installed urinals and fittings.

C. Do not allow use of urinals for temporary facilities unless approved in writing by Director’s Representative.

END OF SECTION 224213.16

SECTION 224216.13 - COMMERCIAL LAVATORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Vitreous-china, counter-mounted lavatories.
   2. Manually operated lavatory faucets.
   3. Supply fittings.
   4. Waste fittings.

1.3 ACTION SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for lavatories.
   2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Counter cutout templates for mounting of counter-mounted lavatories.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For lavatories and faucets to include in operation and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Faucet Washers and O-Rings: Equal to 10 percent of amount of each type and size installed.
2. Faucet Cartridges and O-Rings: Equal to 5 percent of amount of each type and size installed.

PART 2 - PRODUCTS

2.1 VITREOUS-CHINA, COUNTER-MOUNTED LAVATORIES

A. Lavatory - Vitreous China, Undercounter Mounted LAV-1A.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Kohler Co.
b. American Standard.
c. Sloan Valve Company.
d. Zurn Industries, LLC.
e. Approved equivalent.

2. Fixture:

a. Standard: ASME A112.19.2/CSA B45.1.
b. Type: For undercounter mounting.
c. Nominal Size: Rectangular, 23-7/8 by 15-5/8 by 6-3/4 inch.
d. Faucet-Hole Punching: No holes.
e. Faucet-Hole Location: On countertop.
f. Color: White.
g. Mounting Material: Sealant and undercounter mounting kit.

3. Faucet: LAV-1A.

2.2 MANUALLY OPERATED LAVATORY FAUCETS

A. Lavatory faucets intended to convey or dispense water for human consumption are to comply with the U.S. Safe Drinking Water Act (SDWA), with requirements of the Authority Having Jurisdiction (AHJ), and with NSF 61/NSF 372, or 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.

B. Lavatory Faucets - Manual Type: Two-Handle Mixing LAV-1A:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Zurn Industries, LLC.
b. American Standard.
c. I-Con Systems, Inc.
d. Kohler Co.
e. Approved equivalent.

2. Standard: ASME A112.18.1/CSA B125.1.
3. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
4. Body Type: Centerset.
5. Body Material: Commercial, solid-brass, or die-cast housing with brazed copper and brass waterway.
6. Finish: Polished chrome plate.
7. Maximum Flow Rate: 2.2 gpm .
8. Mounting Type: Deck, exposed.
9. Valve Handle(s): Wrist blade, 4 inches (102 mm).
10. Spout: Rigid type.
11. Spout Outlet: Aerator.
12. Operation: Noncompression, manual.
13. Drain: Not part of faucet.

## 2.3 SUPPLY FITTINGS

A. NSF Standard: Comply with NSF 61 and NSF 372 for supply-fitting materials that will be in contact with potable water.

B. Standard: ASME A112.18.1/CSA B125.1.

C. Supply Piping: Chrome-plated-brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated-brass or stainless steel wall flange.

D. Supply Stops: Chrome-plated-brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.

E. Operation: Wheel handle.

F. Risers:

1. NPS 1/2 (DN 15).
2. Chrome-plated, rigid-copper-pipe and brass straight or offset tailpieces riser.

## 2.4 WASTE FITTINGS

A. Standard: ASME A112.18.2/CSA B125.2.

B. Drain: Grid type with NPS 1-1/4 (DN 32) offset and straight tailpiece.

C. Trap:

1. Size: NPS 1-1/2 by NPS 1-1/4 (DN 40 by DN 32).
2. Material:
   a. Stainless steel, two-piece trap and swivel elbow with 0.012-inch (-(0.30-mm-) thick stainless steel tube to wall, and stainless steel wall flange.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before lavatory installation.

B. Examine counters and walls for suitable conditions where lavatories will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

A. Install lavatories level and plumb in accordance with roughing-in drawings.

B. Install supports, affixed to building substrate, for wall-mounted lavatories.

C. Install accessible wall-mounted lavatories at handicapped/elderly mounting height for people with disabilities or the elderly, in accordance with ICCUNIFORM CODE A117.1.

D. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

E. Seal joints between lavatories, counters, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

F. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible lavatories. Comply with requirements in Section 220719 "Plumbing Piping Insulation."

### 3.3 PIPING CONNECTIONS

A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.

B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

## 3.4 ADJUSTING

A. Operate and adjust lavatories and controls. Replace damaged and malfunctioning lavatories, fittings, and controls.

B. Install new batteries in battery-powered, electronic-sensor mechanisms.

## 3.5 CLEANING AND PROTECTION

A. After completing installation of lavatories, inspect and repair damaged finishes.

B. Clean lavatories, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.

C. Provide protective covering for installed lavatories and fittings.

D. Do not allow use of lavatories for temporary facilities unless approved in writing by Director’s Representative.

END OF SECTION 224216.13

SECTION 224216.16 - COMMERCIAL SINKS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Service sinks.
2. Kitchen/utility sinks.
3. Manually operated sink faucets.
4. Supply fittings.
5. Waste fittings.
6. Sink supports.
7. Grout.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for sinks.
2. Include rated capacities, operating characteristics and furnished specialties and accessories.

E. Coordination Drawings: Counter cutout templates for mounting of counter-mounted sinks.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For sinks and faucets to include in operation and maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Faucet Washers and O-Rings: Equal to 10 percent of amount of each type and size installed.
2. Faucet Cartridges and O-Rings: Equal to 5 percent of amount of each type and size installed.

PART 2 - PRODUCTS

2.1 SERVICE SINKS

A. Service Sinks - Enameled Cast Iron, Floor Mounted: JS-1.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Zurn Industries, LLC.
b. Approved equivalent.

2. Source Limitations: Obtain sinks from single source from single manufacturer.
3. Fixture:

a. Standard: ASME A112.19.1/CSA B45.2.
b. Style: With front apron and raised back.
c. Nominal Size: 28 by 28 inches.
d. Color: White.
e. Drain: Grid with 3 inch outlet.
f. Rim Guard: Coated wire.

4. Faucet: Insert service sink faucet designation from "Manually Operated Sink Faucets" Article.

2.2 UTILITY SINKS

A. Utility Sinks - Stainless Steel, Counter Mounted: SK-1.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Elkay.
b. Approved equivalent.

2. Source Limitations: Obtain sinks from single source from single manufacturer.

3. Fixture:

    a. Standard: ASME A112.19.3/CSA B45.4.
    b. Type: Stainless steel, self-rimming, sound-deadened unit with ledge back.
    c. Number of Compartments: One.
    d. Overall Dimensions: 25” x 22” x 9”.
    e. Material: 18 gauge, Type 304 stainless steel.
    f. Compartment:

        1) Dimensions: 22-1/2” x 16-3/4” x 9”.
        2) Drain: Grid with 1-1/2 inch tailpiece and twist drain.
        3) Drain Location: Centered in compartment.
        4) Depth: Standard.

4. Faucet(s): <Insert sink faucet designation from "Manually Operated Sink Faucets" or "Automatically Operated Sink Faucets" Article>.

    a. Number Required: One.
    b. Mounting: On ledge.

5. Supply Fittings:

    a. Standard: ASME A112.18.1/CSA B125.1.
    b. Supplies: Chrome-plated brass compression stop with inlet connection matching water-supply piping type and size.

        1) Operation: Wheel handle.
        2) Risers: 1/2 inch, ASME A112.18.6/CSA B125.6, braided or corrugated stainless steel flexible hose.

6. Waste Fittings:

    a. Standard: ASME A112.18.2/CSA B125.2.
    b. Trap(s):

        1) Size: 1-1/2 inch.
        2) Material:

            a) Chrome-plated, two-piece, cast-brass trap and swivel elbow with 17-gauge brass tube to wall

7. Mounting: On counter with sealant.

## 2.3 MANUALLY OPERATED SINK FAUCETS

A. Sink faucets intended to convey or dispense water for human consumption are to comply with the U.S. Safe Drinking Water Act (SDWA), with requirements of the Authority Having Jurisdiction (AHJ), 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.

B. Commercial Sink Faucets - Manual Type: Single-control mixing, used for SK-1.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Elkay.
    b. Approved equivalent.

2. Source Limitations: Obtain sink faucets from single source from single manufacturer.
3. Standard: ASME A112.18.1/CSA B125.1.
4. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and sink receptor.
5. Body Type: Single hole.
6. Body Material: Commercial, solid brass, or die-cast housing with brazed copper and brass waterway.
7. Finish: Chrome plated.
8. Maximum Flow Rate: 1.5 gpm.
9. Mounting Type: Deck, concealed.
10. Valve Handle(s): Lever.
11. Spout Type: Arc Tube.
12. Spout Outlet: Aerator.

C. Commercial Service Sink Faucets - Manual Type: used for JS-1.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Zurn Industries, LLC.
    b. Approved equivalent.

2. Source Limitations: Obtain sink faucets from single source from single manufacturer.
3. Description: Wall/back mounted, brass body, with integral service stops, checks, spout with bucket/pail hook, 3/4-inch hose thread end, integral vacuum breaker, inlets 8 inches o.c., and two-handle mixing.
4. Faucet:

    a. Standards:

        1) ASME A112.18.1/CSA B125.1.
        2) NSF 61 and NSF 372.
        3) Uniform Code A117.1.
        4) ASSE 1001 (VB).

    a. Finish: Polished chrome plated.
    b. Handles: Lever.
    c. Cartridges: Ceramic.
    d. Brace: Adjustable top brace.

## 2.4 SUPPLY FITTINGS

A. NSF Standard: Comply with NSF 61 and NSF 372 for supply-fitting materials that will be in contact with potable water.

B. Standard: ASME A112.18.1/CSA B125.1.

C. Supply Piping: Chrome-plated brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated brass or stainless steel wall flange.

D. Supply Stops: Chrome-plated brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.

E. Operation: Wheel handle.

F. Risers:

1. 1/2 inch.
2. ASME A112.18.6/CSA B125.6, braided or corrugated stainless steel flexible hose.

## 2.5 WASTE FITTINGS

A. Standard: ASME A112.18.2/CSA B125.2.

B. Drain: Grid type with 1-1/2 inch offset and straight tailpiece.

C. Trap:

1. Size: 1-1/2 inch.
2. Material:

a. Chrome-plated, [two-piece, cast-brass trap and swivel elbow with 17-gauge brass tube to wall] [two-piece, cast-brass trap and ground-joint swivel elbow with 17-gauge brass tube to wall] [one-piece, cast-brass trap with swivel 17-gauge tubular brass wall bend] <Insert trap type>; and chrome-plated brass or steel wall flange.

## 2.6 SINK SUPPORTS

A. Sink Carrier:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Josam Company.
b. WATTS.
c. Zurn Industries, LLC.
d. Approved equivalent.

2. Source Limitations: Obtain sink supports from single source from single manufacturer.
3. Standard: ASME A112.6.1M.

## 2.7 GROUT

A. Standard: ASTM C1107, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

B. Characteristics: Nonshrink; recommended for interior and exterior applications.

C. Design Mix: 5000 psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Examine roughing-in for water-supply piping and sanitary drainage and vent piping systems to verify actual locations of piping connections before sink installation.

B. Examine walls, floors, and counters for suitable conditions where sinks will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

A. Install sinks level and plumb in accordance with rough-in drawings.

B. Install supports, affixed to building substrate, for wall-hung sinks.

C. Set floor-mounted sinks in leveling bed of cement grout.

D. Install water-supply piping with stop on each supply to each sink faucet.

1. Exception: Use ball or gate valves if supply stops are not specified with sink. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."
2. Install stops in locations where they can be easily reached for operation.

E. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

F. Seal joints between sinks and counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

G. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks.

## 3.3 PIPING CONNECTIONS

A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.

## 3.4 ELECTRICAL CONNECTIONS

A. Connect wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted in accordance with NFPA 70 and NECA 1.

## 3.5 ADJUSTING

A. Operate and adjust sinks and controls. Replace damaged and malfunctioning sinks, fittings, and controls.

B. Install new batteries in battery-powered, electronic-sensor mechanisms.

## 3.6 CLEANING AND PROTECTION

A. After completing installation of sinks, inspect and repair damaged finishes.

B. Clean sinks, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.

C. Provide protective covering for installed sinks and fittings.

D. Do not allow use of sinks for temporary facilities unless approved in writing by Director’s Representative.

END OF SECTION 224216.16

SECTION 224223 - COMMERCIAL SHOWERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Individual shower receptors.
2. Shower faucets.
3. Shower basins.
4. Group showers.
5. Outdoor showers.
6. Grout.

B. Related Requirements:

1. Section 224000 "Plumbing Fixtures"

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for showers and basins.
2. Include rated capacities, operating characteristics, and furnished specialties and accessories.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For shower faucets to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Faucet Washers and O-Rings: Equal to 10 percent of amount of each type and size installed.
2. Faucet Cartridges and O-Rings: Equal to 5 percent of amount of each type and size installed.

PART 2 - PRODUCTS

2.1 INDIVIDUAL SHOWERS

A. Individual PMMA Showers SH-1:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Delta Faucet Company.
b. DreamLine.
c. E.L. Mustee and Sons, Inc.
d. Kohler Co.
e. American Standard.
f. Approved equivalent.

2. General: PMMA shower enclosure with faucet and receptor and appurtenances.
3. Standard: ANSI Z124.1.2.
4. Type: Sectional unit without top.
5. Style: Standard residential.
6. Faucet: SH-1.
7. Nominal Size and Shape: 36 by 36 inches square.
8. Color: White.
9. Bathing Surface: Slip resistant according to ASTM F462.
10. Outlet: Drain with NPS 2 outlet.
11. Shower Rod and Curtain: Required.
12. Grab Bar: Not required.

B. Individual PMMA Showers SH-1A:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Delta Faucet Company.
b. DreamLine.
c. E.L. Mustee and Sons, Inc.
d. Kohler Co.
e. American Standard.
f. Approved equivalent.

2. General: PMMA shower enclosure with faucet and receptor and appurtenances.
3. Standard: ANSI Z124.1.2.
4. Type: Sectional unit without top.
5. Style Handicapped/wheelchair.
6. Faucet: SH-1A.
7. Nominal Size and Shape: 60 by 36 inches rectangular.
8. Color: White.
9. Bathing Surface: Slip resistant according to ASTM F462.
10. Outlet: Drain with NPS 3 outlet.
11. Shower Rod and Curtain: Required.
12. Grab Bar: ASTM F446, mounted on support area back wall.

## 2.2 SHOWER FAUCETS

A. NSF Standard: Comply with NSF 61 Annex G, "Drinking Water System Components - Health Effects," for shower materials that will be in contact with potable water.

B. Shower Faucets SH-1:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

    a. Kohler Co.
    b. Moen Inc.
    c. Delta Faucet Company.
    d. Approved equivalent.

2. Description: Single-handle, pressure-balance mixing valve with hot- and cold-water indicators; check stops; and shower head.
3. Faucet:

    a. Standards: ASME A112.18.1/CSA B125.1 and ASSE 1016.
    b. Body Material: Plastic.
    c. Finish: Polished chrome plate.
    d. Shower-Arm, Flow-Control Fitting: Not required.
    e. Mounting: Concealed.
    f. Operation: Single-handle, twist or rotate control.
    g. Antiscald Device: Integral with mixing valve.
    h. Check Stops: Check-valve type, integral with or attached to body; on hot- and cold-water supply connections.

4. Supply Connections: NPS 1/2.
5. Shower Head:

    a. Standard: ASME A112.18.1/CSA B125.1.
    b. Type: Integral with mounting flange.
    c. Shower Head Material: Plastic with chrome-plated finish.
    d. Spray Pattern: Fixed.
    e. Integral Volume Control: required.

f. Temperature Indicator: Not required.

C. Shower Faucets SH-1A:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equivalent:

a. Kohler Co.
b. Moen Inc.
c. Delta Faucet Company.
d. Approved equivalent.

2. Description: Single-handle, thermostatic mixing valve with hot- and cold-water indicators; check stops; and shower head.
3. Faucet:

a. Standards: ASME A112.18.1/CSA B125.1 and ASSE 1016.
b. Body Material: Solid brass.
c. Finish: Polished chrome plate.
d. Shower-Arm, Flow-Control Fitting: 1.75 GPM.
e. Mounting: Exposed.
f. Operation: Single-handle, push-pull control.
g. Antiscald Device: Integral with mixing valve.
h. Check Stops: Check-valve type, integral with or attached to body; on hot- and cold-water supply connections.

4. Supply Connections: NPS 1/2.
5. Shower Head:

a. Standard: ASME A112.18.1/CSA B125.1.
b. Type: Ball joint with arm and flange.
c. Shower Head Material: Metallic with chrome-plated finish.
d. Spray Pattern: Adjustable.
e. Integral Volume Control: Not required.
f. Shower-Arm, Flow-Control Fitting: 1.75 GPM.

## 2.3 SHOWER BASINS

A. Shower Basins SH-1 PMMA shower basin.

1. PMMA (Acrylic) Shower Basins:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Delta Faucet Company.
2) DreamLine.
3) E.L. Mustee and Sons, Inc.
4) Kohler Co.
5) American Standard.

6) Approved equivalent.

2. Standard: ANSI Z124.1.3 for PMMA bases.
3. Type: Standard residential.
4. Nominal Size and Shape 36 by 36 inches square.
5. Color: White.
6. Outlet: Drain with NPS 2 outlet.
7. Bathing Surface: Slip resistant according to ASTM F462.

B. Shower Basins SH-1A PMMA shower basin.

1. Solid-Surface Shower Basins:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) American Standard.
2) Swan Corporation (The).
3) Willoughby Industries.
4) Approved equivalent.

2. Standard: ANSI/ICPA SS-1 for solid-surface material.
3. Type: Handicapped/wheelchair.
4. Nominal Size and Shape 60 by 36 inches rectangular.
5. Color: White.
6. Outlet: Drain with NPS 3 outlet.
7. Bathing Surface: Slip resistant according to ASTM F462.

## 2.4 GROUT

A. Standard: ASTM C1107, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

B. Characteristics: Nonshrink; recommended for interior and exterior applications.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Examine roughing-in of water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before shower installation.

B. Examine walls and floors for suitable conditions where showers will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

A. Assemble shower components according to manufacturers' written instructions.

B. Install showers level and plumb according to roughing-in drawings.

C. Install water-supply piping with stop on each supply to each shower faucet.

1. Exception: Use ball or gate valves if supply stops are not specified with shower. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."
2. Install stops in locations where they can be easily reached for operation.

D. Install shower flow-control fittings with specified maximum flow rates in shower arms.

E. Set shower basins in leveling bed of cement grout.

F. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheons requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

G. Seal joints between showers and floors and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

## 3.3 CONNECTIONS

A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.

B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

C. Comply with traps and soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

## 3.4 ADJUSTING

A. Operate and adjust showers and controls. Replace damaged and malfunctioning showers, fittings, and controls.

B. Adjust water pressure at faucets to produce proper flow.

## 3.5 CLEANING AND PROTECTION

A. After completing installation of showers and basins, inspect and repair damaged finishes.

B. Clean showers and basins, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.

C. Provide protective covering for installed fixtures and fittings.

D. Do not allow use of showers and basins for temporary facilities unless approved in writing by Director’s Representative.

END OF SECTION 224223

SECTION 224713 - DRINKING FOUNTAINS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes drinking fountains and related components.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of drinking fountain.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Include operating characteristics, and furnished specialties and accessories.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For drinking fountains to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 DRINKING FOUNTAINS

A. Combination Drinking Fountain and Bottle-Filling Stations DF-1A: Stainless steel, wheelchair accessible, wall mounted.

1. Stainless-Steel Combination Drinking Fountain and Bottle-Filling Stations

a. Basis of Design: Elkay LZWS-LRPBM28K or approved equal

2. Standards:

a. Comply with ASME A112.19.3/CSA B45.4.
b. Comply with NSF 61 “Drinking Water Systems Components - Health Effects” and NSF 372 “Drinking Water System Components - Lead Content”.
c. Comply with Uniform Code A117.1 “Accessible and Usable Buildings and Facilities”.

3. Type Receptor: On horizontal support.
4. Receptor Shape: Round.
5. Back Panel: Stainless-steel wall plate behind drinking fountain.
6. Bubblers: Two, with adjustable stream regulator, located on deck.
7. Maximum Water Flow: 0.133 gpm.
8. Control: Push button.
9. Drain: Grid type with NPS 1-1/4 tailpiece.
10. Supply: NPS 3/8 with shutoff valve.
11. Waste Fitting: ASME A112.18.2/CSA B125.2 “Plumbing Waste Fittings”, NPS 1-1/4 chrome-plated brass P-trap and waste.
12. Drinking Fountain Mounting Height: Handicapped/elderly according to Uniform Code A117.1.
13. Support: Type II water cooler carrier.
14. Bottle Filler: Sensor activation, with mechanical front bubbler button. Fill rate 0.5 to 1.5 gpm.

## 2.2 SUPPORTS

A. Type II Water Cooler Carrier:

1. Standard: ASME A112.6.1 “Floor-Affixed Supports for Off-The-Floor Plumbing Fixtures for Public Use”.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Examine roughing-in for water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before fixture installation.

B. Examine walls and floors for suitable conditions where fixtures will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

A. Install fixtures level and plumb according to roughing-in drawings. For fixtures indicated for children, install at height required by authorities having jurisdiction.

B. Set pedestal drinking fountains on floor.

C. Install recessed drinking fountains secured to wood blocking in wall construction.

D. Install off-the-floor carrier supports, affixed to building substrate, for wall-mounted fixtures.

E. Install water-supply piping with shutoff valve on supply to each fixture to be connected to domestic-water distribution piping. Use ball or gate valve. Install valves in locations where they can be easily reached for operation. Valves are specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."

F. Install trap and waste piping on drain outlet of each fixture to be connected to sanitary drainage system.

G. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons where required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

H. Seal joints between fixtures and walls using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

## 3.3 CONNECTIONS

A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.

B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

C. Install ball or gate shutoff valve on water supply to each fixture. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."

D. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

## 3.4 ADJUSTING

A. Adjust fixture flow regulators for proper flow and stream height.

3.5 CLEANING

A. After installing fixtures, inspect unit. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.

B. Clean fixtures, on completion of installation, according to manufacturer's written instructions.

C. Provide protective covering for installed fixtures.

D. Do not allow use of fixtures for temporary facilities unless approved in writing by Director’s Representative.

END OF SECTION 224713

SECTION 231123 - FACILITY NATURAL-GAS PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipes, tubes, and fittings.
2. Piping specialties.
3. Piping and tubing joining materials.
4. Manual gas shutoff valves.
5. Pressure regulators.
6. Service meters.
7. Dielectric fittings.

1.3 DEFINITIONS

A. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

C. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of the following:

1. Piping specialties.
2. Corrugated, stainless-steel tubing with associated components.
3. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
4. Pressure regulators. Indicate pressure ratings and capacities.
5. Service meters. Indicate pressure ratings and capacities. Include bypass fittings and meter bars.
6. Dielectric fittings.

E. Submit an Environmental Product Declaration (EPD) from the manufacturer for steel pipe within this specification section, if available. A statement of the contractor's good faith effort to obtain the EPD shall be provided if not available.

1. Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 *Environmental labels and declarations*, ISO 14044 *Environmental management – Life cycle assessment*, and ISO 21930 *Core rules for environmental product declarations of construction products and services.*

F. Shop Drawings: For facility natural-gas piping layout. Include plans, piping layout and elevations, sections, and details for fabrication of pipe anchors, hangers, supports for multiple pipes, alignment guides, expansion joints and loops, and attachments of the same to building structure. Detail location of anchors, alignment guides, and expansion joints and loops.

1. Shop Drawing Scale: 1/4 inch per foot.
2. Detail mounting, supports, and valve arrangements for service meter assembly and pressure regulator assembly.

G. Delegated-Design Submittal: For natural-gas piping and equipment indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Detail fabrication and assembly of seismic restraints.
2. Design Calculations: Calculate requirements for selecting seismic restraints.

H. Coordination Drawings: Plans and details, drawn to scale, on which natural-gas piping is shown and coordinated with other installations, using input from installers of the items involved.

I. Site Survey: Plans, drawn to scale, on which natural-gas piping is shown and coordinated with other services and utilities.

J. Qualification Data: For qualified professional engineer.

K. Welding certificates.

L. Field quality-control reports.

## 1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For motorized gas valves, pressure regulators, and service meters to include in emergency, operation, and maintenance manuals.

## 1.6 QUALITY ASSURANCE

A. Steel Support Welding Qualifications: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code - Steel."

B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

## 1.7 DELIVERY, STORAGE, AND HANDLING

A. Handling Flammable Liquids: Remove and dispose of liquids from existing natural-gas piping according to requirements of authorities having jurisdiction.

B. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

C. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.

D. Protect stored PE pipes and valves from direct sunlight.

## 1.8 PROJECT CONDITIONS

A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.

B. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by Director’s Representative or others unless permitted under the following conditions and then only after arranging to provide purging and startup of natural-gas supply according to requirements indicated:

1. Notify Director’s Representative’s no fewer than two days in advance of proposed interruption of natural-gas service.
2. Do not proceed with interruption of natural-gas service without Director’s Representative’s written permission.

1.9 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

B. Coordinate requirements for access panels and doors for valves installed concealed behind finished surfaces. Comply with requirements in Section 083113 "Access Doors and Frames."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Minimum Operating-Pressure Ratings:

1. Piping and Valves: 100 psig minimum unless otherwise indicated.
2. Service Regulators: 100 psig minimum unless otherwise indicated.
3. Minimum Operating Pressure of Service Meter: 5 psig.

B. Natural-Gas System Pressure within Buildings: More than 0.5 psig but not more than 2 psig.

C. Natural-Gas System Pressures within Buildings: Two pressure ranges. Primary pressure is more than 0.5 psig but not more than 2 psig, and is reduced to secondary pressure of 0.5 psig or less.

D. Natural-Gas System Pressures within Buildings: Two pressure ranges. Primary pressure is more than 2 psig but not more than 5 psig, and is reduced to secondary pressure of more than 0.5 psig but not more than 2 psig.

E. Natural-Gas System Pressures within Buildings: Three pressure ranges. Primary pressure is more than 2 psig but not more than 5 psig, and is reduced to secondary pressures of more than 0.5 psig but not more than 2 psig, and is reduced again to pressures of 0.5 psig or less.

2.2 PIPES, TUBES, AND FITTINGS

A. Steel Pipe: ASTM A53/A53M, black steel, Schedule 40, Type E or S, Grade B.

1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
2. Wrought-Steel Welding Fittings: ASTM A234 for butt welding and socket welding.
3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
4. Forged-Steel Flanges and Flanged Fittings: ASME B16.5, minimum Class 150, including bolts, nuts, and gaskets of the following material group, end connections, and facings:

a. Material Group: 1.1.
b. End Connections: Threaded or butt welding to match pipe.
c. Lapped Face: Not permitted underground.
d. Gasket Materials: ASME B16.20, metallic, flat, asbestos free, aluminum o-rings, and spiral-wound metal gaskets.
e. Bolts and Nuts: ASME B18.2.1, carbon steel aboveground and stainless-steel underground.

5. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and PE.

    a. Joint Cover Kits: Epoxy paint, adhesive, and heat-shrink PE sleeves.

6. Mechanical Couplings:

    a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

        1) Baker Hughes Company.
        2) Smith-Blair, Inc.
        3) Viega LLC.
        4) Approved equivalent.

    b. Stainless-steel flanges and tube with epoxy finish.
    c. Buna-nitrile seals.
    d. Stainless-steel bolts, washers, and nuts.
    e. Coupling shall be capable of joining PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.
    f. Steel body couplings installed underground on plastic pipe shall be factory equipped with anode.

B. Corrugated, Stainless-Steel Tubing: Comply with ANSI/IAS LC 1.

1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

    a. FlashShield Products; Gastite, a division of Titeflex Corp.
    b. TracPipe CounterStrike; Omega Flex, Inc.
    c. Tru-Flex Metal Hose Corp.
    d. Ward Manufacturing LLC.
    e. Approved equivalent.

2. Tubing: ASTM A240, corrugated, Series 300 stainless steel.
3. Coating: PE with flame retardant.

    a. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

        1) Flame-Spread Index: 25 or less.
        2) Smoke-Developed Index: 50 or less.

4. Fittings: Copper-alloy mechanical fittings with ends made to fit and listed for use with corrugated stainless-steel tubing and capable of metal-to-metal seal without gaskets. Include brazing socket or threaded ends complying with ASME B1.20.1.
5. Striker Plates: Steel, designed to protect tubing from penetrations.

6. Manifolds: Malleable iron or steel with factory-applied protective coating. Threaded connections shall comply with ASME B1.20.1 for pipe inlet and corrugated tubing outlets.
7. Operating-Pressure Rating: 5 psig.

## 2.3 PIPING SPECIALTIES

A. Appliance Flexible Connectors:

1. Indoor, Fixed-Appliance Flexible Connectors: Comply with ANSI Z21.24.
2. Indoor, Movable-Appliance Flexible Connectors: Comply with ANSI Z21.69.
3. Outdoor, Appliance Flexible Connectors: Comply with ANSI Z21.75.
4. Corrugated stainless-steel tubing with polymer coating.
5. Operating-Pressure Rating: 0.5 psig.
6. End Fittings: Zinc-coated steel.
7. Threaded Ends: Comply with ASME B1.20.1.
8. Maximum Length: 72 inches

B. Quick-Disconnect Devices: Comply with ANSI Z21.41.

1. Copper-alloy convenience outlet and matching plug connector.
2. Nitrile seals.
3. Hand operated with automatic shutoff when disconnected.
4. For indoor or outdoor applications.
5. Adjustable, retractable restraining cable.

C. Y-Pattern Strainers:

1. Body: ASTM A126, Class B, cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 40-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig.

D. Basket Strainers:

1. Body: ASTM A126, Class B, high-tensile cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 40-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig.

E. T-Pattern Strainers:

1. Body: Ductile or malleable iron with removable access coupling and end cap for strainer maintenance.
2. End Connections: Grooved ends.

3. Strainer Screen: 40-mesh startup strainer, and perforated stainless-steel basket with 57 percent free area.
4. CWP Rating: 750 psig.

F. Weatherproof Vent Cap: Cast- or malleable-iron increaser fitting with corrosion-resistant wire screen, with free area at least equal to cross-sectional area of connecting pipe and threaded-end connection.

## 2.4 JOINING MATERIALS

A. Joint Compound and Tape: Suitable for natural gas.

B. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

C. Brazing Filler Metals: Alloy with melting point greater than 1000 deg F complying with AWS A5.8. Brazing alloys containing more than 0.05 percent phosphorus are prohibited.

## 2.5 MANUAL GAS SHUTOFF VALVES

A. See "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles for where each valve type is applied in various services.

B. General Requirements for Metallic Valves, NPS 2 and Smaller: Comply with ASME B16.33.

1. CWP Rating: 125 psig.
2. Threaded Ends: Comply with ASME B1.20.1.
3. Dryseal Threads on Flare Ends: Comply with ASME B1.20.3.
4. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
5. Listing: Listed and labeled by an NRTL acceptable to authorities having jurisdiction for valves 1 inch and smaller.
6. Service Mark: Valves 1-1/4 inches to NPS 2 shall have initials "WOG" permanently marked on valve body.

C. General Requirements for Metallic Valves, NPS 2-1/2 and Larger: Comply with ASME B16.38.

1. CWP Rating: 125 psig.
2. Flanged Ends: Comply with ASME B16.5 for steel flanges.
3. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
4. Service Mark: Initials "WOG" shall be permanently marked on valve body.

D. One-Piece, Bronze Ball Valve with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A.Y. McDonald Mfg. Co.
    b. Apollo Valves; a part of Aalberts Integrated Piping Systems.
    c. BrassCraft Manufacturing Co.; a Masco company.
    d. Lyall, R. W. & Company, Inc.
    e. Perfection Corporation.
    f. Approved equivalent.

2. Body: Bronze, complying with ASTM B584.
3. Ball: Chrome-plated brass.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE; blowout proof.
6. Packing: Separate packnut with adjustable-stem packing threaded ends.
7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

E. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A.Y. McDonald Mfg. Co.
    b. Apollo Valves; a part of Aalberts Integrated Piping Systems.
    c. BrassCraft Manufacturing Co.; a Masco company.
    d. Lyall, R. W. & Company, Inc.
    e. Perfection Corporation.
    f. Approved equivalent.

2. Body: Bronze, complying with ASTM B584.
3. Ball: Chrome-plated bronze.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE; blowout proof.
6. Packing: Threaded-body packnut design with adjustable-stem packing.
7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

F. Two-Piece, Regular-Port Bronze Ball Valves with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A.Y. McDonald Mfg. Co.
    b. Apollo Valves; a part of Aalberts Integrated Piping Systems.
    c. BrassCraft Manufacturing Co.; a Masco company.
    d. Lyall, R. W. & Company, Inc.
    e. Perfection Corporation.
    f. Approved equivalent.

2. Body: Bronze, complying with ASTM B584.
3. Ball: Chrome-plated bronze.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE.
6. Packing: Threaded-body packnut design with adjustable-stem packing.
7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

G. Bronze Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A.Y. McDonald Mfg. Co.
    b. Lee Brass Company.
    c. Approved equivalent.

2. Body: Bronze, complying with ASTM B584.
3. Plug: Bronze.
4. Ends: Threaded, socket, or flanged as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
5. Operator: Square head or lug type with tamperproof feature where indicated.
6. Pressure Class: 125 psig.
7. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
8. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

H. Cast-Iron, Nonlubricated Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A.Y. McDonald Mfg. Co.

b. Mueller Co.
c. Xomox Corporation.
d. Approved equivalent.

2. Body: Cast iron, complying with ASTM A126, Class B.
3. Plug: Bronze or nickel-plated cast iron.
4. Seat: Coated with thermoplastic.
5. Stem Seal: Compatible with natural gas.
6. Ends: Threaded or flanged as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
7. Operator: Square head or lug type with tamperproof feature where indicated.
8. Pressure Class: 125 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

I. Cast-Iron, Lubricated Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. A.Y. McDonald Mfg. Co.
b. Flowserve Corporation.
c. Homestead Valve, a division of Olson Technologies, Inc.
d. Milliken Valve Company; a Mueller brand.
e. Mueller Co.
f. R & M Energy Systems; Robbins & Myers.
g. Approved equivalent.

2. Body: Cast iron, complying with ASTM A126, Class B.
3. Plug: Bronze or nickel-plated cast iron.
4. Seat: Coated with thermoplastic.
5. Stem Seal: Compatible with natural gas.
6. Ends: Threaded or flanged as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
7. Operator: Square head or lug type with tamperproof feature where indicated.
8. Pressure Class: 125 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

J. Valve Boxes:

1. Cast-iron, two-section box.
2. Top section with cover with "GAS" lettering.
3. Bottom section with base to fit over valve and barrel a minimum of 5 inches in diameter.
4. Adjustable cast-iron extensions of length required for depth of bury.
5. Include tee-handle, steel operating wrench with socket end fitting valve nut or flat head, and with stem of length required to operate valve.

## 2.6 PRESSURE REGULATORS

A. General Requirements:

1. Single stage and suitable for natural gas.
2. Steel jacket and corrosion-resistant components.
3. Elevation compensator.
4. End Connections: Threaded for regulators NPS 2 and smaller; flanged for regulators NPS 2-1/2 and larger.

B. Service Pressure Regulators: Comply with ANSI Z21.80.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Actaris.
    b. American Meter Company.
    c. Fischer; Emerson Electric Co., Automation Solutions.
    d. Invensys.
    e. Itron Gas.
    f. Richards Industries.
    g. Approved equivalent.

2. Body and Diaphragm Case: Cast iron or die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
6. Orifice: Aluminum; interchangeable.
7. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
8. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
9. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
10. Overpressure Protection Device: Factory mounted on pressure regulator.
11. Atmospheric Vent: Factory- or field-installed, stainless-steel screen in opening if not connected to vent piping.
12. Maximum Inlet Pressure: 100 psig.

C. Line Pressure Regulators: Comply with ANSI Z21.80.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Actaris.
    b. American Meter Company.
    c. Dormont; a WATTS brand.
    d. Eclipse Innovative Thermal Technologies.

e. Fischer; Emerson Electric Co., Automation Solutions.
f. Invensys.
g. Itron Gas.
h. Maxitrol Company.
i. Richards Industries.
j. Approved equivalent.

2. Body and Diaphragm Case: Cast iron or die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
6. Orifice: Aluminum; interchangeable.
7. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
8. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
9. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
10. Overpressure Protection Device: Factory mounted on pressure regulator.
11. Atmospheric Vent: Factory- or field-installed, stainless-steel screen in opening if not connected to vent piping.
12. Maximum Inlet Pressure: 2 psig.

D. Appliance Pressure Regulators: Comply with ANSI Z21.18.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Canadian Meter Company Inc.
b. Dormont; a WATTS brand.
c. Eaton.
d. Harper Wyman Co.
e. Maxitrol Company.
f. SCP, Inc.
g. Approved equivalent.

2. Body and Diaphragm Case: Die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber.
6. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
7. Factory-Applied Finish: Minimum three-layer polyester and polyurethane paint finish.
8. Regulator may include vent limiting device, instead of vent connection, if approved by authorities having jurisdiction.
9. Maximum Inlet Pressure: 2 psig.

2.7 DIELECTRIC FITTINGS

A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.

B. Dielectric Unions:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. HART Industrial Unions, LLC.
b. WATTS.
c. Wilkins.
d. Zurn Industries, LLC.
e. Approved equivalent.

2. Description:

a. Standard: ASSE 1079.
b. Pressure Rating: 125 psig minimum at 180 deg F.
c. End Connections: Solder-joint copper alloy and threaded ferrous.

C. Dielectric Flanges:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Capitol Manufacturing Company.
b. Central Plastics Company.
c. Matco-Norca.
d. WATTS.
e. Wilkins.
f. Approved equivalent.

2. Description:

a. Standard: ASSE 1079.
b. Factory-fabricated, bolted, companion-flange assembly.
c. Pressure Rating: 125 psig minimum at 180 deg F.
d. End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.

D. Dielectric-Flange Insulating Kits:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Advance Products & Systems, Inc.

b. Calpico, Inc.
c. Central Plastics Company.
d. Pipeline Seal and Insulator, Inc.
e. Approved equivalent.

2. Description:

a. Nonconducting materials for field assembly of companion flanges.
b. Pressure Rating: 150 psig.
c. Gasket: Neoprene or phenolic.
d. Bolt Sleeves: Phenolic or polyethylene.
e. Washers: Phenolic with steel backing washers.

## 2.8 LABELING AND IDENTIFYING

A. Detectable Warning Tape: Acid- and alkali-resistant, PE film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored yellow.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 PREPARATION

A. Close equipment shutoff valves before turning off natural gas to premises or piping section.

B. Inspect natural-gas piping according to the International Fuel Gas Code to determine that natural-gas utilization devices are turned off in piping section affected.

C. Comply with the International Fuel Gas Code requirements for prevention of accidental ignition.

## 3.3 OUTDOOR PIPING INSTALLATION

A. Comply with the International Fuel Gas Code for installation and purging of natural-gas piping.

B. Steel Piping with Protective Coating:

1. Apply joint cover kits to pipe after joining to cover, seal, and protect joints.

2. Repair damage to PE coating on pipe as recommended in writing by protective coating manufacturer.
3. Replace pipe having damaged PE coating with new pipe.

C. Install fittings for changes in direction and branch connections.

D. Install pressure gage upstream and downstream from each service regulator. Pressure gages are specified in Section 230519 "Meters and Gages for HVAC Piping."

## 3.4 INDOOR PIPING INSTALLATION

A. Comply with the International Fuel Gas Code for installation and purging of natural-gas piping.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. 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 approved on Coordination Drawings.

C. Arrange for pipe spaces, chases, slots, sleeves, and openings in building structure during progress of construction, to allow for mechanical installations.

D. Install piping in concealed locations 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.

G. Locate valves for easy access.

H. Install natural-gas piping at uniform grade of 2 percent down toward drip and sediment traps.

I. Install piping free of sags and bends.

J. Install fittings for changes in direction and branch connections.

K. Verify final equipment locations for roughing-in.

L. Comply with requirements in Sections specifying gas-fired appliances and equipment for roughing-in requirements.

M. Drips and Sediment Traps: Install drips at points where condensate may collect, including service-meter outlets. Locate where accessible to permit cleaning and emptying. Do not install where condensate is subject to freezing.

1. Construct drips and sediment traps using tee fitting with bottom outlet plugged or capped. Use nipple a minimum length of 3 pipe diameters, but not less than 3 inches long and same size as connected pipe. Install with space below bottom of drip to remove plug or cap.

N. Extend relief vent connections for service regulators, line regulators, and overpressure protection devices to outdoors and terminate with weatherproof vent cap.

O. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings, below grade or floors, and in floor channels unless indicated to be exposed to view.

P. Concealed Location Installations: Except as specified below, install concealed natural-gas piping and piping installed under the building in containment conduit constructed of steel pipe with welded joints as described in Part 2. Install a vent pipe from containment conduit to outdoors and terminate with weatherproof vent cap.

1. Above Accessible Ceilings: Natural-gas piping, fittings, valves, and regulators may be installed in accessible spaces without containment conduit.
2. In Floors: Install natural-gas piping with welded or brazed joints and protective coating in cast-in-place concrete floors. Cover piping to be cast in concrete slabs with minimum of 1-1/2 inches of concrete. Piping may not be in physical contact with other metallic structures such as reinforcing rods or electrically neutral conductors. Do not embed piping in concrete slabs containing quick-set additives or cinder aggregate.
3. In Floor Channels: Install natural-gas piping in floor channels. Channels must have cover and be open to space above cover for ventilation.
4. In Walls or Partitions: Protect tubing installed inside partitions or hollow walls from physical damage using steel striker barriers at rigid supports.

    a. Exception: Tubing passing through partitions or walls does not require striker barriers.

5. Prohibited Locations:

    a. Do not install natural-gas piping in or through circulating air ducts, clothes or trash chutes, chimneys or gas vents (flues), ventilating ducts, or dumbwaiter or elevator shafts.
    b. Do not install natural-gas piping in solid walls or partitions.

Q. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.

R. Connect branch piping from top or side of horizontal piping.

S. Install unions in pipes NPS 2 and smaller, adjacent to each valve, at final connection to each piece of equipment. Unions are not required at flanged connections.

T. Do not use natural-gas piping as grounding electrode.

U. Install strainer on inlet of each line-pressure regulator and automatic or electrically operated valve.

V. Install pressure gage upstream and downstream from each line regulator. Pressure gages are specified in Section 230519 "Meters and Gages for HVAC Piping."

W. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."

X. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."

Y. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 230518 "Escutcheons for HVAC Piping."

## 3.5 VALVE INSTALLATION

A. Install manual gas shutoff valve for each gas appliance ahead of corrugated stainless-steel tubing, aluminum, or copper connector.

B. Install underground valves with valve boxes.

C. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.

D. Install earthquake valves aboveground outside buildings according to listing.

E. Install anode for metallic valves in underground PE piping.

## 3.6 PIPING JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Threaded Joints:

1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
2. Cut threads full and clean using sharp dies.
3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.
5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. Welded Joints:

1. Construct joints according to AWS D10.12, using qualified processes and welding operators.
2. Bevel plain ends of steel pipe.
3. Patch factory-applied protective coating as recommended by manufacturer at field welds and where damage to coating occurs during construction.

E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter.

F. Flanged Joints: Install gasket material, size, type, and thickness appropriate for natural-gas service. Install gasket concentrically positioned.

G. Flared Joints: Cut tubing with roll cutting tool. Flare tube end with tool to result in flare dimensions complying with SAE J513. Tighten finger tight, then use wrench. Do not overtighten.

H. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D2657.

1. Plain-End Pipe and Fittings: Use butt fusion.
2. Plain-End Pipe and Socket Fittings: Use socket fusion.

## 3.7 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for seismic-restraint devices specified in Section 230548 "Vibration and Seismic Controls for HVAC."

B. Comply with requirements for pipe hangers and supports specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."

C. Install hangers for steel piping, with maximum horizontal spacing and minimum rod diameters, to comply with MSS-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

D. Install hangers for corrugated stainless-steel tubing, 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 steel piping to comply with MSS-58, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

G. Support vertical runs of corrugated stainless-steel tubing to comply with manufacturer's written instructions, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

## 3.8 CONNECTIONS

A. Connect to utility's gas main according to utility's procedures and requirements.

B. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to NFPA 70.

C. Install piping adjacent to appliances to allow service and maintenance of appliances.

D. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches of each gas-fired appliance and equipment. Install union between valve and appliances or equipment.

E. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

## 3.9 LABELING AND IDENTIFYING

A. Comply with requirements in Section 230553 "Identification for HVAC Piping and Equipment" for piping and valve identification.

B. Install detectable warning tape directly above gas piping, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

## 3.10 PAINTING

A. Comply with requirements in Section 099114 "Exterior Painting" and Section 099123 "Interior Painting" for painting interior and exterior natural-gas piping.

B. Paint exposed, exterior metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory-applied paint or protective coating.

1. Alkyd System: MPI EXT 5.1D.

    a. Prime Coat: Alkyd anticorrosive metal primer.
    b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
    c. Topcoat: Exterior alkyd enamel flat.
    d. Color: Yellow

C. Paint exposed, interior metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory-applied paint or protective coating.

1. Latex Over Alkyd Primer System: MPI INT 5.1Q.

    a. Prime Coat: Alkyd anticorrosive metal primer.
    b. Intermediate Coat: Interior latex matching topcoat.
    c. Topcoat: Interior latex flat
    d. Color: Yellow.

2. Alkyd System: MPI INT 5.1E.

    a. Prime Coat: Alkyd anticorrosive metal primer.
    b. Intermediate Coat: Interior alkyd matching topcoat.
    c. Topcoat: Interior alkyd flat
    d. Color: Yellow.

D. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

## 3.11 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Test, inspect, and purge natural gas according to the International Fuel Gas Code and authorities having jurisdiction.

C. Natural-gas piping will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

## 3.12 DEMONSTRATION

A. Engage a company field advisor to train facility's maintenance personnel to adjust, operate, and maintain earthquake valves.

## 3.13 OUTDOOR PIPING SCHEDULE

A. Aboveground natural-gas piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.

B. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

## 3.14 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES MORE THAN 0.5 PSIG AND LESS THAN 5 PSIG

A. Aboveground, branch piping NPS 1 and smaller shall be one of the following:

1. Corrugated stainless-steel tubing with mechanical fittings having socket or threaded ends to match adjacent piping.
2. Steel pipe with malleable-iron fittings and threaded joints.

B. Aboveground, distribution piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with steel welding fittings and welded joints.
3. Drawn-temper copper tube with wrought-copper fittings and brazed joints.

C. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat underground pipe and fittings with protective coating for steel piping.

D. Containment Conduit Vent Piping: Steel pipe with malleable-iron fittings and threaded or wrought-steel fittings with welded joints. Coat underground pipe and fittings with protective coating for steel piping.

3.15 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Valves for pipe sizes NPS 2 and smaller at service meter shall be one of the following:

1. One-piece, bronze ball valve with bronze trim.
2. Two-piece, full-port, bronze ball valves with bronze trim.
3. Bronze plug valve.

B. Valves for pipe sizes NPS 2-1/2 and larger at service meter shall be one of the following:

1. Two-piece, full-port, bronze ball valves with bronze trim.
2. Bronze plug valve.
3. Cast-iron, nonlubricated plug valve.

C. Distribution piping valves for pipe sizes NPS 2 and smaller shall be one of the following:

1. One-piece, bronze ball valve with bronze trim.
2. Two-piece, full-port, bronze ball valves with bronze trim.
3. Bronze plug valve.

D. Distribution piping valves for pipe sizes NPS 2-1/2 and larger shall be one of the following:

1. Two-piece, full-port, bronze ball valves with bronze trim.
2. Bronze plug valve.
3. Cast-iron, lubricated plug valve.

E. Valves in branch piping for single appliance shall be one of the following:

1. One-piece, bronze ball valve with bronze trim.
2. Two-piece, full-port, bronze ball valves with bronze trim.
3. Bronze plug valve.

END OF SECTION 231123

NEW YORK STATE | Office of General Services

Design and Construction

Division of Codes & Construction Permitting, 33rd Floor, Corning Tower
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Albany, New York 12242
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# STATEMENT OF SPECIAL INSPECTIONS

Project No.: 47477

Instructions: BCNYS Section 1704.2.3 requires the project Design Professional to complete the Statement of Special Inspections *as a condition for issuance of the Construction Permit.* Complete each section of this form as applicable, and submit it to the Code Compliance Manager with the Summary of Special Inspections (BDC 406).

| **PROJECT INFORMATION**: | **DESIGNER INFORMATION:** | | **CONSTRUCTION INFORMATION**: | |
|---|---|---|---|---|
| Project Description: *(Project Title, Facility Name and Address)*<br>RENOVATE ARMORY<br>STATE ARMORY<br>2 QUINCY PLACE<br>YONKERS, NY | Architect/Engineer/Consultant:<br>Bell & Spina Architects-Engineers, PC | | Engineer- In-Charge: | Region: |
| | Name of Person Completing Form: *(if different from above)*<br>Jack Healy - RBCD; Mike Olszewski - M&P | | Name of Person Completing Form: *(if different from above)* | |
| | Phone:<br>315-488-0377 | Date:<br>11-24-2025 | Phone: | Date: |
| Business Unit:<br>BU 4 | Comments:<br>Completed by Ryan Biggs Clark Davis Engineering, DPC; M&P Engineering and Land Surveying, PLLC | | Comments: | |
| Team Leader:<br>Kevin Renaghan | | | | |

| Check if Required | INSPECTION AND TESTING<br>Continuous and Periodic as defined by the BCNYS | Continuous | Periodic | REFERENCE STANDARD | BCNYS REFERENCE | SPEC SECTION | COMMENTS | REGIONAL INSPECTION ASSIGNMENTS |
|---|---|---|---|---|---|---|---|---|
| | **A. Steel Construction** | | | | 1705.2 | | | |
| ☒ | 1. Structural steel. | ☐ | ☒ | AISC 360 Chapter N.5 | 1705.2, 1705.2.1 | 051200.0 | | |
| ☒ | 2. Cold-formed steel deck. | | ☒ | SDI QA/QC 2011 | 1705.2, 1705.2.2 | 053100.0 | | |
| ☐ | 3. Installation of open-web steel joist and joist girders. | | ☐ | SJI specification (Section 2207.1) | 1705.2, 1705.2.3, 1705.2.4 | | | |
| | **B. Concrete Construction** | | | | 1705.3 | | | |
| ☒ | 1. Inspection of reinforcing steel, including prestressing tendons, and placement. | | ☒ | ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 | 1705.3, 1908.4 | 032000.0 | | |

| Check if Required | INSPECTION AND TESTING<br>Continuous and Periodic<br>as defined by<br>the BCNYS | Continuous | Periodic | REFERENCE STANDARD | BCNYS REFERENCE | SPEC SECTION | COMMENTS | REGIONAL INSPECTION ASSIGNMENTS |
|---|---|---|---|---|---|---|---|---|
| | **B. Concrete Construction** | | | | 1705.3 | | | |
| ☒ | 2a. Reinforcing bar welding - Weldability of reinforcing bars other than ASTM A706. | | ☒ | AWS D1.4; ACI 318: 26.6.4 | 1705.3, 1705.3.1 | 032000.0 | | |
| ☒ | 2b. Reinforcing bar welding - Single-pass fillet welds, maximum 5/16 inches. | | ☒ | AWS D1.4; ACI 318: 26.6.4 | 1705.3, 1705.3.1 | 032000.0 | | |
| ☒ | 2c. Reinforcing bar welding - All other welds. | ☒ | | AWS D1.4; ACI 318: 26.6.4 | 1705.3, 1705.3.1 | 032000.0 | | |
| ☒ | 3. Cast in concrete anchorage. | | ☒ | ACI 318: 17.8.2 | 1705.3 | 032000.0 | | |
| ☒ | 4a. Post installed concrete members - Adhesive anchors installed horizontally or upwardly inclined to resist sustained tension loads. | ☒ | | ACI 318: 17.8.2.4 | 1705.3 | 033000.0 | | |
| ☒ | 4b. Post installed concrete members - Mechanical anchors and adhesive anchors not defined in 4.a. | | ☒ | ACI 318: 17.8.2 | | 033000.0 | | |
| ☒ | 5. Verify use of required design mix. | | ☒ | ACI 318: Ch. 19, 26.4.3, 26.4.4 | 1705.3, 1904.1, 1904.2, 1908.2, 1908.3 | 033000.0 | | |
| ☒ | 6. Sampling fresh concrete: slump, air content, temperature, strength test specimens. | ☒ | | ASTM C 172, ASTM C31; ACI 318: 26.4, 26.12 | 1705.3, 1908.10 | 033000.0 | | |
| ☒ | 7. Inspect concrete and shotcrete placement for proper application techniques. | ☒ | | ACI 318: 26.5 | 1705.3, 1908.6, 1908.7, 1908.8 | 033000.0 | | |
| ☒ | 8. Inspection for maintenance of specified curing temperature and techniques. | | ☒ | ACI 318: 26.5.3-26.5.5 | 1705.3, 1908.9 | 033000.0 | | |
| ☐ | 9. Inspection of prestressed concrete. | ☐ | | ACI 318: 26.10 | 1705.3 | | | |

| Check if Required | INSPECTION AND TESTING<br>Continuous and Periodic as defined by the BCNYS | Continuous | Periodic | REFERENCE STANDARD | BCNYS REFERENCE | SPEC SECTION | COMMENTS | REGIONAL INSPECTION ASSIGNMENTS |
|---|---|---|---|---|---|---|---|---|
| ☐ | 10. Erection of precast concrete members. | | ☐ | ACI 318: Ch. 26.8 | 1705.3 | | | |
| ☐ | 11. Verification of in-situ concrete strength prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and slabs. | | ☐ | ACI 318: 26.11.2 | 1705.3 | | | |
| ☒ | 12. Inspect formwork for shape, location and dimensions of the concrete member being formed. | | ☒ | ACI 318: 26.11.1.2(b) | | 031000.0 | | |
| ☒ | 13. Material Tests – In absence of sufficient data or documentation for materials. | | ☒ | ACI 318 Ch. 19 and 20 | | 033000.0 | | |
| | **C. Masonry Construction** | | | | 1705.4 | | | |
| ☒ | 1. Masonry construction. | ☐ | ☒ | ACI 530/ ASCE 5/TMS 402 and ACI 530.1/ ASCE 6/TMS 602 Ch. 3 | 1705.4 | 042000.0 | | |
| ☐ | 2. Empirically designed masonry, glass unit masonry and masonry veneer in Risk Category IV. | | ☐ | TMS 402/ ACI530/ ASCE 5 Level B Ch. 3 | 1705.4.1, 2109, 2110, or Ch. 14 | | | |
| ☐ | 3. Vertical masonry foundation elements. | ☐ | ☐ | | 1705.4, 1705.4.2 | | | |
| | **D. Wood Construction** | | | | 1705.5 | | | |
| ☐ | 1. Wood construction- Fabrication of wood structural elements and assemblies. | | ☐ | | 1705.5, 1704.2.5 | | | |
| ☐ | 2. High-load Diaphragms. | | ☐ | | 1705.5, 1705.5.1, 2306.2,1704.2 | | | |

| Check if Required | INSPECTION AND TESTING<br>Continuous and Periodic as defined by the BCNYS | Continuous | Periodic | REFERENCE STANDARD | BCNYS REFERENCE | SPEC SECTION | COMMENTS | REGIONAL INSPECTION ASSIGNMENTS |
|---|---|---|---|---|---|---|---|---|
| | **D. Wood Construction** | | | | 1705.5 | | | |
| ☐ | 3. Metal-plate-connected wood trusses spanning 60 feet or greater (temp. and perm. installation). | | ☐ | | 1705.5.2 | | | |
| | **E. Soils** | | | | 1705.6 | | | |
| ☒ | 1. Subgrade inspection. | | ☒ | | 1705.6 | 310000.0 | | |
| ☒ | 2. Classification and testing of compacted fill materials. | | ☒ | | 1705.6 | 310000.0 | | |
| ☒ | 3. Evaluation of in-place density and lift thickness. | ☒ | | | 1705.6 | 310000.0 | | |
| ☐ | **F. Driven Deep Foundations** Installation and load tests (if applicable). | ☐ | | | 1705.7 | | | |
| ☐ | **G. Cast-In-Place Deep Foundations** Installation, end bearing strata, and load tests (if applicable). | ☐ | | | 1705.8 | | | |
| ☐ | **H. Helical Pile Foundation** Installation and load tests (is applicable). | ☐ | | | 1705.9 | | | |
| ☒ | **I. Fabricated Items** | | ☒ | | 1705.10, 1704.2.5 | 055213 | Pipe and tube railings | |
| ☐ | **J. Wind Resistance** Applicable in Exposure Category B with a basic wind speed of 120 mph and Exposure Categories C or D with basic wind speed of 110 mph or greater. | | | | 1705.11 | | | |
| ☐ | 1a. Structural wood - Field gluing operation of elements of main wind force-resisting system (MWRS). | ☐ | | | 1705.11.1 | | | |

| Check if Required | INSPECTION AND TESTING<br>Continuous and Periodic<br>as defined by<br>the BCNYS | Continuous | Periodic | REFERENCE STANDARD | BCNYS REFERENCE | SPEC SECTION | COMMENTS | REGIONAL INSPECTION ASSIGNMENTS |
|---|---|---|---|---|---|---|---|---|
| ☐ | **J. Wind Resistance**<br>Applicable in Exposure Category B with a basic wind speed of 120 mph and Exposure Categories C or D with basic wind speed of 110 mph or greater. | | | | 1705.11 | | | |
| ☐ | 1a. Field Gluing | ☐ | | | 1705.11.1 | | | |
| ☐ | 1b. Structural wood - Nailing, bolting, anchoring, and fastening elements of the MWRS. | | ☐ | | 1705.11.1 | | | |
| ☐ | 2a. Cold formed steel - Welding operations of elements of MWRS. | | ☐ | | 1705.11.2 | | | |
| ☐ | 2b. Cold formed steel - Screw attachments, bolting, anchoring, and fastening of elements of MWRS. | | ☐ | | 1705.11.2 | | | |
| ☐ | 3. Wind-resisting components – Roof covering, roof deck, and roof framing connections. Exterior wall covering and wall connections to roof and floor diaphragms and framing. | | ☐ | | 1705.11, 1705.11.3 | | | |
| ☐ | **K. Special Inspections for Seismic Resistance**<br>Applicable to specific structures, systems, and components. | | | | 1705.12 | | | |
| ☐ | 1. Structural steel - Seismic force-resisting systems & elements. | ☐ | | AISC 341 Ch. J | 1705.12.1.1 or 1705.12.1.2 | | | |
| ☐ | 2a. Structural wood - Field gluing operation of elements of seismic force-resisting system (SFRS). | ☐ | | | 1705.12.2 | | | |
| ☐ | 2b. Structural wood - Nailing, bolting, anchoring, and fastening of elements of SFRS. | | ☐ | | 1705.12.2 | | | |

| Check if Required | INSPECTION AND TESTING<br>Continuous and Periodic<br>as defined by<br>the BCNYS | Continuous | Periodic | REFERENCE STANDARD | BCNYS REFERENCE | SPEC SECTION | COMMENTS | REGIONAL INSPECTION ASSIGNMENTS |
|---|---|---|---|---|---|---|---|---|
| | **K. Special Inspections for Seismic Resistance**<br>Applicable to specific structures, systems, and components. | | | | 1705.12 | | | |
| ☐ | 3. Cold-formed steel framing – welding and fasteners. | | ☐ | | 1705.12.3 | | | |
| ☐ | 4. Designated seismic systems – verify that label, anchorage, and mounting conforms to the certificate of compliance. | | ☐ | ASCE 7 Section 13.2.2 | 1705.12.4 | | | |
| ☐ | 5. Architectural components. | | ☐ | | 1705.12.5 | | | |
| ☐ | 6. Plumbing, Mechanical and electrical components. | | ☐ | | 1705.12.6 | | | |
| ☐ | 7. Storage racks and access floors. | | ☐ | | 1705.12.7, | | | |
| ☐ | 8. Seismic isolation systems. | | ☐ | | 1705.12.8 | | | |
| ☐ | 9. Cold-formed steel special bolted moment frames. | | ☐ | | 1705.12.9 | | | |
| ☐ | **L. Structural Testing for Seismic Resistance**<br>Applicable to specific structures, systems, and components. | | | | 1705.13 | | | |
| ☐ | 1. Structural steel. | ☐ | ☐ | AISC 341 Ch. J | 1705.13.1 | | | |
| ☐ | 2. Nonstructural components. | | ☐ | ASCE 7 Section 13.2.1 | 1705.13.2 | | | |
| ☐ | 3. Designated seismic systems. | | ☐ | ASCE 7 Section 13.2.2 | 1705.13.3 | | | |

| Check if Required | INSPECTION AND TESTING<br>Continuous and Periodic<br>as defined by<br>the BCNYS | Continuous | Periodic | REFERENCE STANDARD | BCNYS REFERENCE | SPEC SECTION | COMMENTS | REGIONAL INSPECTION ASSIGNMENTS |
|---|---|---|---|---|---|---|---|---|
| | **L. Structural Testing for Seismic Resistance**<br>Applicable to specific structures, systems, and components. | | | | 1705.13 | | | |
| ☐ | 4. Seismic isolation systems. | | ☐ | ASCE 7 Section 17.8 | 1705.13.4 | | | |
| | **M. Sprayed Fire-Resistant Materials [BF]** | | | | 1705.14 | | | |
| ☐ | 1. Physical and visual tests. | | ☐ | | 1705.14.1 | | | |
| ☐ | 2. Structural member surface conditions. | | ☐ | | 1705.14.2 | | | |
| ☐ | 3. Application. | | ☐ | | 1705.14.3 | | | |
| ☐ | 4. Thickness. | | ☐ | ASTM E 605 | 1705.14.4 | | | |
| ☐ | 5. Density. | | ☐ | ASTM E 605 | 1705.14.5 | | | |
| ☐ | 6. Bond strength. | | ☐ | ASTM E 736 | 1705.14.6 | | | |
| ☐ | **N. Mastic and Intumescent Fire-Resistant Coatings [BF]** | | ☐ | AWCI 12-B | 1705.15 | | | |
| ☐ | **O. Exterior Insulation and Finish Systems (EIFS)** | | ☐ | ASTM E2570 | 1705.16 | | | |
| ☐ | **P. Fire-Resistant Penetrations and Joints [BF]**<br>High rise building or buildings assigned to risk category III or IV | | ☐ | ASTM E2174<br>ASTM E2393 | 1705.17 | | | |
| ☐ | **Q. Testing for Smoking Control [F]** | | ☐ | | 1705.18 | | | |

NEW YORK STATE
Office of General Services
Office of Business Diversity

Design and Construction
Office of Business Diversity
29th Floor, Corning Tower
The Governor Nelson A. Rockefeller Empire State Plaza
Albany, New York 12242
Phone: (518) 486-9284 FAX: (518) 486-9285

# CONTRACTOR'S MWBE UTILIZATION PLAN

☐ Revised Plan

Contract No.: _____

*REMINDER: Utilize the New York State Contract System located at https://ny.newnycontracts.com/Default.asp?TN=ny&XID=8353 to report MWBE payments on a monthly basis. Making false representations or including information evidencing a lack of good faith as part of, or in conjunction with, the submission of a Utilization Plan is prohibited by law and may result in penalties including, but not limited to, termination of a contract for cause, loss of eligibility to submit future bids, and/or withholding of payments. Firms that do not perform commercially useful functions may not be counted toward MWBE utilization.*

| Contractor's Name, Address and Federal ID No.: | Contract Description/Location: | Date Proposal Approved: | Date Printed: | Bid Date: | MWBE GOALS | |
|---|---|---|---|---|---|---|
| | | | | | MBE% | WBE% |
| Federal ID No.: | Work/Job Order: | OGS Project Number: | Work Order Value: | Contract Amount: | | |

| Certified MBE/WBE Name, Address and Phone No. | MBE | WBE | Tiered Sub | Description of Subcontracting/Supplies | Anticipated performance/purchase date(s) | Dollar Value of Subcontract/Supplies | FOR OGS USE ONLY | SEE BDC 328.1 |
|---|---|---|---|---|---|---|---|---|
| Federal ID No.: | ☐ | ☐ | ☐ | | | | | ☐ |
| Federal ID No.: | ☐ | ☐ | ☐ | | | | | ☐ |
| Federal ID No.: | ☐ | ☐ | ☐ | | | | | ☐ |
| Federal ID No.: | ☐ | ☐ | ☐ | | | | | ☐ |

Pursuant to Executive Law Article 15-A, my firm will engage in a good faith effort to achieve the MWBE goals on this contract.

Contractor's Signature:

Enter Name:

Title:

E-Mail Address: Date:

Contractor's Comments:

**FOR OGS USE ONLY**

☐ Accepted ☐ Accepted as Noted ☐ Notice of Deficiency Issued

MBE % _____ MBE $ _____ WBE % _____ WBE $ _____

| OGS Authorized Signature: | Enter Name: | Date: |
|---|---|---|
| | | |

NEW YORK STATE | Office of General Services
Office of Business Diversity

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Albany, New York 12242
Phone: (518) 486-9284 FAX: (518) 486-9285

# CONTRACTOR'S LIST OF SUBCONTRACTORS/SUPPLIERS

Contract No.

| Contractor's Name, Address and Federal ID No.: | Project Description/Location: | | Date Submitted: | Bid Date: | MWBE Goals | | SDVOB Goal |
|---|---|---|---|---|---|---|---|
| | | | | | MBE | WBE | |
| Federal ID No. | ☐ Construction Contracts Exceeding $100,000<br>☐ Commodity or Service Contracts Exceeding $25,000 | | Submittal No.: | Contract Amount: | | | |
| Date Proposal Approved: | Date Printed: | OGS Project Number: | Work/Job Order: | | Work Order Value: | | |

| Subcontractor/Supplier Name, Address, Phone No., Federal ID No. (FEIN) and DOL No. *(Do not list information previously submitted.)* | Sub/Supplier *(Check One)* | | | MBE | WBE | SDVOB | General Description of Work | Subcontractor/ Supplier Dollar Value | **OGS Use Only** |
|---|---|---|---|---|---|---|---|---|---|
| | Sub | Tiered Sub | Supplier | | | | | | |
| FEIN.: DOL No: - -CR | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | | |
| FEIN.: DOL No: - -CR | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | | |
| FEIN.: DOL No: - -CR | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | | |
| FEIN.: DOL No: - -CR | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | | |

Pursuant to Executive Law Article 15-A and Article 3 of the Veterans' Services Law, my firm proposes to use the certified firms listed above.

Contractor's Signature

Title

Date

**OGS Use Only**

Proposed Goal Attainments:

MBE % _____ WBE % _____ SDVOB % _____

☐ Accepted ☐ Accepted as Noted ☐ Not Accepted

Reason: _____

OGS Authorized Signature _____ Date _____

**OGS 47477 RENOVATE STATE ARMORY NATIONAL GUARD**

GEOTECHNICAL ENGINERING SERVICES – NEW ADDITION

**RGE PROJECT NUMBER: 25.0015**

# GEOTECHNICAL ENGINEERING SERVICES REPORT

RENAISSANCE GEOTECHNICAL ENGINEERING™




**PREPARED FOR:**

**BELL & SPINA**
215 WYOMING STREET
SYRACUSE, NY 13204

## PREPARED BY:

**RENAISSANCE GEOTECHNICAL ENGINEERING, PLLC**
**P.O. BOX 2503**
**GLENVILLE, NY 12302**
al@renaissancegeo.com

THIS DOCUMENT CANNOT BE ALTERED WITHOUT EXPRESS WRITEN CONSCENT OF RENAISSANCE GEOTEOCHNICAL ENGINEERING, PLLC. IT IS A VIOLATION OF THE UNIVERSITY OF THE STATE OF NEW YORK, EDUCATION DEPARTMENT LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

RENAISSANCE GEOTECHNICAL ENGINEERING™

June 23, 2025

**BELL AND SPINA**
215 Wyoming Street
Syracuse, New York 13204

Attn.: Mr. James L. Paolini, AIA Email: jpaolini@bellandspina.com

RE: Geotechnical Engineering Services Report
Renovate State Armory National Guard – New Addition
2 Quincy Place, Yonkers, Rockland County, New York
**OGS Project No.: 47477**
**RGE PROJECT Number: 25.0015**

Dear Mr. Paolini:

On May 23, 2025, RENAISSANCE GEOTECHNICAL ENGINEERING, PLLC (RGE) retained the services of Core Down Drilling Company for the completion of a single subsurface exploration boring within the existing facility of the State Armory National Guard in Yonkers, New York. The purpose of this investigation was to oversee the drilling process, visually classify the recovered subgrade soils, and provide shallow footing foundation recommendations to support a lightly loaded addition.

The test boring was advanced to a depth of approximately 22 feet below current grade. A map depicting the approximate location of the boring is included with this letter as Attachment 1.

A test boring log data including the completed laboratory tests have been provided as part of Attachment 2. Expanded laboratory test results and curves are included in Attachment 3.

## Site Geology

The Surficial Geologic Map of New York, Lower-Hudson, 1989 Sheet identifies the project area as part of "t – Till" described as Silty SAND with Gravel.

According to the United States Geological Survey (USGS) and the Geologic Map of New York, Lower Hudson, the project site is situated in a geologic area best described as being part of the Fordham Gneiss.

## Seismic Considerations

We recommend that foundations at this site be designed assuming a Seismic Site Class "D" as recommended in Section 1613.3.2 of the New York State Building Code and Chapter 20 of ASCE 7. Seismic output parameters summarized in the table below from the ASCE/SEI 7-16 Seismic Standard Tool are also found in Attachment 4.

Seismic Site Class and Spectral Accelerations

| | | |
|---|---|---|
| Seismic Site Class | | D |
| Estimated Site Coordinates | Latitude | 40.938352 |
| | Longitude | -73.89689 |
| Adjusted Peak Ground Acceleration - $PGA_M$ | | 0.264g |
| $S_{MS}$ – Short Period, Site Class Modified Spectral Acceleration | | 0.464g |
| $S_{M1}$ – 1 Second Period, Site Class Modified Spectral Acceleration | | 0.147g |
| $S_{DS}$ – Short Period, Five Percent Damping, Spectral Acceleration | | 0.31g |
| $S_{D1}$ – 1 Second Period, Five Percent Damping, Spectral Acceleration | | 0.098g |

| | |
|---|---|
| $S_s$ – Short Period Spectral Acceleration | 0.297g |
| $S_1$ – 1 Second Period Spectral Acceleration | 0.061g |
| Assumed Risk Category (Final determination shall be by the structural engineer) | III |

**Groundwater Conditions**

The presence of water was not observed at the time of drilling. Groundwater level fluctuations and/or perched water conditions may occur due to seasonal variations in the amount of rainfall and other factors such as drainage characteristics. To obtain more accurate groundwater level information, long-term observations in a monitoring well or piezometer that is sealed from the influence of surface water would be needed.

**Shallow Foundations**

To limit total and differential elastic settlements due to static loading to less than an inch, a reinforced continuous footing, with isolated column footings should be designed using a maximum allowable net bearing pressure of 2,000 pounds per square foot. This bearing pressure is the pressure that can be applied to the soils at the base of the footings in excess of the minimum surrounding overburden pressures. To provide frost heave protection and ensure adequate confinement of the bearing materials, footings should be located at least 3.5 feet below final outside grade. Interior column footings may bear at least 3 feet below the finished floor elevation and be at least 30 inches in width.

Formed continuous footings should have a minimum width of 24 inches. Prior to placing concrete, all foundation bearing grades should be dry, stable, and free of standing water, mud, or frost. Bearing grades should be compacted prior to constructing the foundations in order to densify the subgrade materials that have been loosened during the excavations. The foundation excavations should be backfilled with onsite soils, or of select granular fill meeting the gradation requirements shown below:

| Sieve Size Designation | Percent Passing by Weight |
|---|---|
| 4-inch | 100 |
| No. 40 | 0 – 70 |
| No. 200 | 0 – 15 |

Caution should be taken to prevent wetting, drying, or disturbance of the bearing materials. This can be accomplished by placing concrete as soon as the excavation is approved by the Geotechnical Engineer's representative. Surface run-off water should drain away from the excavated areas. If the subgrade materials should become wet or dry and/or loose or disturbed, they should be removed before placing concrete. Any soft or loose areas observed should also be removed before placing concrete.

The passive resistance of the soils against the sides of the footings should be neglected within the top 2 feet. For portions of the footings that extend below the 2-foot depth and bear against undisturbed soils, an ultimate passive earth pressure of 400 psf per foot of depth can be used for stability. Lateral resistance can be calculated using an allowable coefficient of sliding friction 0.4 times the sustained dead load on the footing up to a maximum 2,000 pounds per square feet.

**Slab-On-Grade Floor Slab**

The floor slab should be provided with a subbase course of Select Granular Material at least 6 inches thick. This subbase course should consist of crusher-run stone that conforms to the gradation requirements shown below:

| Sieve Size Designation | Percent Passing by Weight |
|---|---|
| 2-inch | 100 |
| ¼" | 25 – 60 |
| No. 40 | 5 – 40 |
| No. 200 | 0 – 10 |

This subbase material should be compacted to 95 percent of the material maximum dry density per ASTM D-1557. We recommend placing a waterproof membrane (15-mil Polyethylene) on top of the compacted subbase below the floor slab for a vapor barrier. A slab-on-grade supported on at least 6 inches of the above specified subbase material should be designed using a modulus of subgrade reaction, $k_1$, of 150 pci based on a 1-foot by 1-foot plate load test.

Water curing the slab will help the curing process and should help reduce shrinkage cracks and slab curling. Alternative curing provisions of ACI 302 and ACI 308R can also be adopted as directed by the Structural Engineer. Before the floor covering is placed, we recommend slab moisture emission tests be conducted to confirm that moisture discharge levels are within the floor covering manufacture's recommendation. These tests should be run at typical temperature and humidity conditions representative of what the floor covering will be susceptible to under normal conditions.

**Drainage Considerations**

The ground surface should be sloped at least 2% away from the building on all sides to allow for positive drainage away from the building. Water should not be allowed to pond near the structure during or after construction. Foundation and floor drain systems are not required; however, if installed, they should be at least 4 inches thick and constructed of crushed stone or gravel with no more than 10 percent of the material passing the #4 sieve. Additional recommendations for the design of foundation and floor drains can be found in Section 1805 of the 2020 New York State Building Code.

**Construction Dewatering**

The presence of groundwater was not observed. However, if encountered during the excavation process for the foundations, the need for dewatering shall be the responsibility of the contractor including restoring the excavations to a dry condition and preparing the foundation subgrades that are free of mud, water, and disturbed soils.

**Construction Monitoring**

This report provides geotechnical recommendations based on the subsurface conditions encountered at a single test boring. It is not practical or economical to perform enough subsurface investigation borings and test pits to identify all conditions at the site. Subsurface conditions may vary with distance away from the boring completed for this report. Conditions that may affect the recommendations contained in this letter may exist and may not become known until construction. If variations appear during construction, it may be necessary to revise the recommendations contained in this letter. In general accordance with the 2020 State of New York Building Code, monitoring of subsurface conditions during construction should be performed by a geotechnical engineer registered in the State of New York or his/her representative to verify that conditions are consistent with the findings included in this letter. Foundation construction recommended in this letter must be monitored in a full-time basis by a registered geotechnical engineer.

**General**

The findings and recommendations contained in this letter have been made with generally accepted professional geotechnical practices in the local area. No other warranties are implied or expressed. The scope of services and recommendations contained in this letter do not include any environmental assessment or identification of contaminated or hazardous materials. Any statements in this report or in the boring log concerning suspicious odors, colors, irregular textures or abnormal conditions are for informational purposes only and have not been verified by the geotechnical engineer, drilling or testing companies.

Mr. Paolini, we appreciate the opportunity to work with you on this project, and at your request, we are prepared to assist you with the proper construction monitoring and testing services. If you have any questions regarding the information contained in this letter report or if we can be of further assistance, please call us at (518) 902-9222 or email at al@renaissancegeo.com

Respectfully,
**RENAISSANCE GEOTECHNICAL ENGINEERING, PLLC**



Alseny Diop, P.E.
Principal Geotechnical Engineer

Attachment 1 – Vicinity Map & Boring Location Diagram

Attachment 2 – Test Boring Log, General Notes, Key to Boring Log Symbols

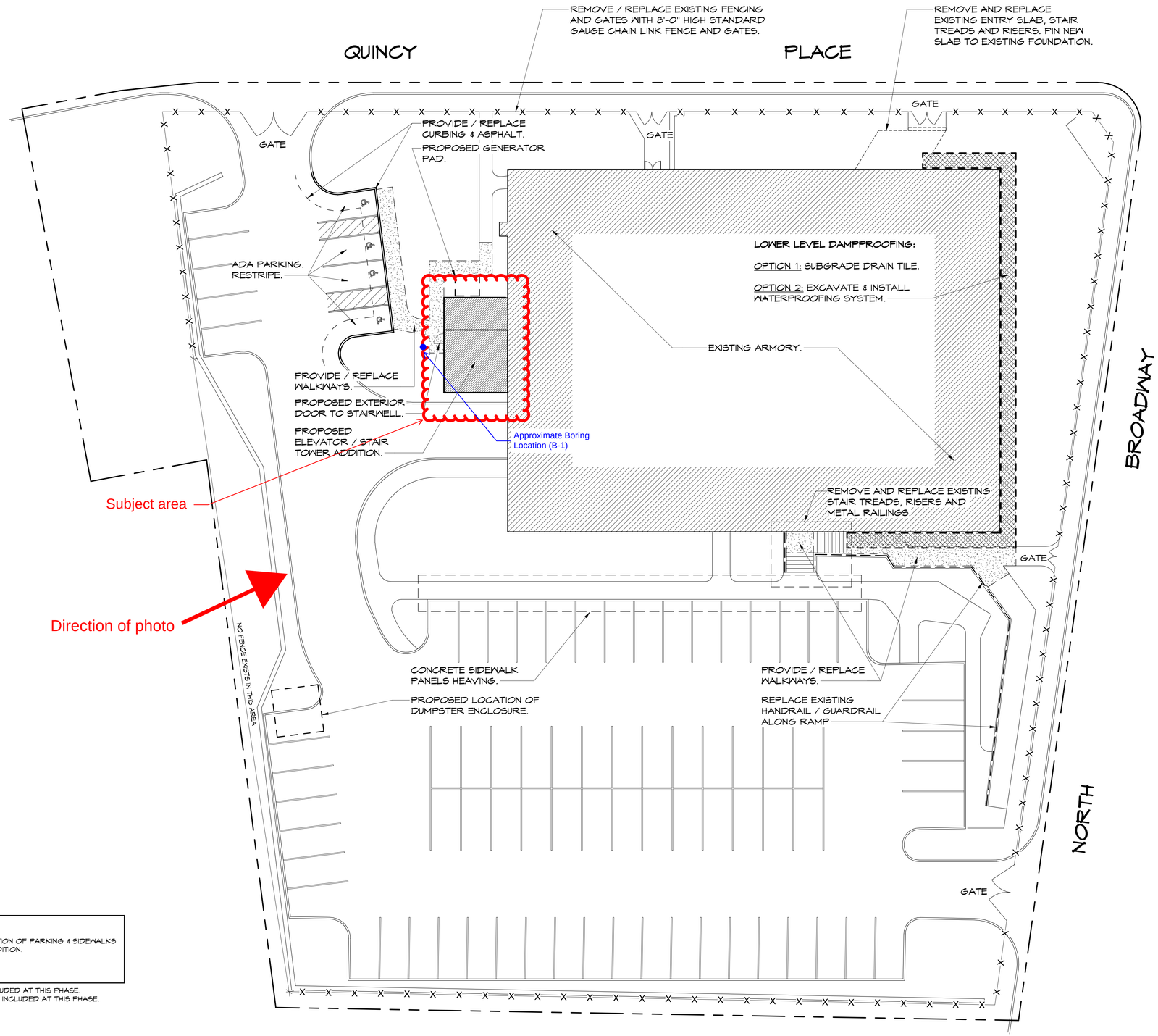
Attachment 3 – Graph of Laboratory Test Results

Attachment 4 – Seismic Output Data

**Attachment 1**

**Vicinity Map & Boring Location Diagram**


Approximate Boring
Location (B-1)




SCOPE OF SITE WORK:

1. RESTORATION AND RECONFIGURATION OF PARKING & SIDEWALKS FOR STAIR/ELEVATOR TOWER ADDITION.
2. FENCING & DUMPSTER.
3. SIDEWALKS AND RAILINGS.
4. WATERPROOFING.
5. LANDSCAPING, STORAGE NOT INCLUDED AT THIS PHASE.
6. PARKING LOT IMPROVEMENTS NOT INCLUDED AT THIS PHASE.

1 SITE PLAN
SCALE : 1/16" = 1'-0"

NEW YORK STATE OF OPPORTUNITY. Office of General Services

DESIGN & CONSTRUCTION

CONSULTANT

bell & spina ARCHITECTS

WARNING:
THE ALTERATION OF THIS MATERIAL ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR

CONTRACT:
CONSTRUCTION

TITLE:
RENOVATE ARMORY

LOCATION:
STATE ARMORY
2 QUINCY PLACE
YONKERS, NY

CLIENT:
DIVISION OF MILITARY AND NAVAL AFFAIRS

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
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| | | |
| | | |
| | | |
| | | |
| | 12/04/2024 | 30% SUBMISSION |

| MARK | DATE | DESCRIPTION |
|---|---|---|
| PROJECT NUMBER: | 47477-C | |
| DESIGNED BY: | JP | |
| DRAWN BY: | BT | |
| FIELD CHECK: | | |
| APPROVED: | | |

SHEET TITLE:
SITE PLAN

DRAWING NUMBER:
G-102

SHEET 3 OF 109

**Attachment 2**

**Boring Log**
**General Notes**
**Key to Boring Log Symbols**

Renaissance Geotechnical Engineering, PLLC
3049 Hamburg Street
Schenectady, NY 12303
Telephone: 518-902-9222
Fax: 518-630-6757

# BORING NUMBER B-1



**CLIENT** BELL & SPINA
**PROJECT NAME** NYSOGS 47477 Yonkers Armory Renovation
**PROJECT NUMBER** 25.0015
**PROJECT LOCATION** 2 Quincy Place, Yonkers, New York
**DATE STARTED** 5/23/25 **COMPLETED** 5/23/25
**GROUND ELEVATION** **HOLE SIZE** 6 inches
**DRILLING CONTRACTOR** RENAISSANCE GEOTECHNICAL
**GROUND WATER LEVELS:**
**DRILLING METHOD** CME-55 4-Inch ID HW40
**AT TIME OF DRILLING** --- None
**LOGGED BY** A.Diop **CHECKED BY** A.Diop
**AT END OF DRILLING** --- None
**NOTES**
**AFTER DRILLING** --- None

| DEPTH (ft) | SAMPLE TYPE NUMBER | RECOVERY % | BLOW COUNTS (N VALUE) | Test Results and Remarks | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.3 **Approximately 4 inches of TOPSOIL** |
| | SS 1 | 63 | 1-1-3-3 (4) | | SM | | (SM) **(FILL) Silty SAND, trace gravel** loose, brownish-gray, moist |
| | SS 2 | 75 | 5-10-11-8 (21) | MC = 9% LL = NP PL = NP Fines = 36% SAND = 56%, gravel = 7% | | | - grades to medium dense from 2.5 feet |
| 5 | SS 3 | 96 | 5-6-5-4 (11) | | | | |
| | SS 4 | 65 | 5-8-5-6 (13) | | | | 6.5 (CL-ML) **Sandy, Silty CLAY, trace gravel** |
| 10 | SS 5 | 58 | 3-6-5-15 (11) | MC = 18% LL = 22 PL = 16 Fines = 70% Sand = 29%, gravel = 1% | CL-ML | | 10.0 |
| | SS 6 | 67 | 12-21-23-25 (44) | MC = 8% LL = NP PL = NP Fines = 25% SAND = 52%, Gravel = 23% | SM | | (SM) **Silty SAND with Gravel** dense, light brown, dry |
| 15 | HS | | | | | | |
| | SS 7 | 90 | 22-23-21-31 (44) | MC = 7% LL = NP PL = NP Fines = 37% SAND = 47%, Gravel = 16% | | | - frequent small cobbles of gneiss from 15 feet |
| 20 | HS | | | | | | |
| | SS 8 | 100 | 22-39-50-50/6" | | | | 22.0 |

Bottom of borehole at 22.0 feet.

GENERAL BH / TP / WELL - GINT STD US LAB COLOR.GDT - 6/23/25 17:09 - C:\USERS\ALDIO\ONEDRIVE - RENAISSANCE GEOTECHNICAL ENGINEERING, PLLC\- PROJECTS\- 2025\- OGS PROJECTS\25.0015 - OGS 47477 RENOVATE STATE ARMORY NATIONAL GUARD

RENAISSANCE GEOTECHNICAL ENGINEERING TM

Phone: 518-902-9222
405-215-9367
info@renaissancegeo.com

# BORING LOG ACRONYM LIBRARY

- SPT-N: Blow or strike count for the Standard Penetration Test or the Texas Cone Penetrometer Test. In general, the Standard Penetration Test "N" is the numbers of strikes required to advance a standard 2-inch outside diameter split-spoon a distance of 1-foot, or portion thereof, with a 140-pound hammer falling 30 inches.

  In general, the Texas Cone Penetrometer Test (TCP) "N" is the numbers of strikes with penetration depths required to advance a solid steel three-inch diameter cone of standard dimensions with a170-pound weight falling 24-inches. Two 50 strike intervals or two 6-inch penetration intervals is recorded.

- WOH: Weight of Hammer
- WOR: Weight of Drilling Rod
- USCS Symbol: The Unified Soil Classification System Identification Symbol
- ATV: All-Terrain Vehicle Mounted Drill Rig
- EL: Elevation
- Lt: Left
- Rt: Right
- LL, PL, PI: Atterberg Limits (Liquid Limit, Plastic Limit, Plasticity Index)
- -#200: Percent Passing Standard No. 200 Sieve
- NP – Non-Plastic
- MC: Moisture Content
- AS: Auger Sample
- BS: Bucket Sample
- DB: Diamond Drilling Bit (Truck Rotary Drilling using air or water to remove cuttings)
- DCD: Diamond Core Barrel Drilling
- HA: Hand Auger
- HS: Hollow Stem Auger (Truck Rotary Drilling)
- PA: Power Auger (Truck Rotary Drilling)
- NR: No Recovery
- PMT: Pressure Meter
- DMT: Dilatometer
- CPT: Cone Penetration Test
- BHS: Borehole Shear
- FV: Field Vane Shear
- TV: Torvane
- PP: Pocket Penetrometer
- RB: Rock/Roller Bit (Truck Rotary Drilling using air or water to remove cuttings)
- RC: Rock Core using
- RQD: Rock Quality Designation
- SS/SPT: Standard Penetration Test (Split-Spoon)
- ST: Thin-Wall Tube Sample (Shelby Tube): a 3" O.D. tube, unless noted otherwise
- TCP: Texas Cone Penetrometer Test
- DCP: Dynamic Cone Penetrometer
- WS: Wash Sample
- WB: Wash Bore
- AB: After Boring Complete
- DCI: Dry Cave In
- WCI: Wet Cave In
- WD: While Drilling
- WS: While Sampling
- WL: Water Level Depth from Boring Surface Elevation
- CME: Central Mine Equipment
- GP: Geoprobe
- AHS: After Hollow Stem
- BHS: Before Hollow Stem

RENAISSANCE GEOTECHNICAL ENGINEERING TM

Phone: 518-902-9222
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info@renaissancegeo.com

# GENERAL INFORMATION & KEY TO THE SUBSURFACE EXPLORATION LOGS

The Subsurface Logs attached to this report present the general observations and mechanical data collected by the drillers at the site, supplemented by classification of the material removed from the borings as determined through visual identification by engineers in the field, and by technicians in the laboratory. The materials removed from the borings represent only a small fraction of the soils at the site and may not be representative of subsurface conditions between and/or away from the boring locations or the sampled intervals. The data presented on the Subsurface Logs along with the recovered samples provide a basis for estimating the engineering characteristics of the soils at the site. The evaluation must consider all the recorded details and their relative significance to the project. It is common that evaluation of standard subsurface data indicates the need for additional testing and/or sampling to evaluate the subsurface conditions more accurately. Any evaluation of the data presented on the Subsurface Logs must be performed by qualified professionals. The following information defines some of the procedures and terms used on the Subsurface Logs to describe the conditions encountered. Water levels measured in low permeability soils (clays & unfractured rock) may require long term observations and therefore, the depths shown may not be accurate.

## Soil Classification and Descriptions

- Soil Classification: The soil description and classification is based on the Unified Soil Classification System (USCS) unless noted otherwise

- *Consistency/Relative Density*

| Cohesionless Materials | | Cohesive Materials | | |
|---|---|---|---|---|
| N-blows/ft | Relative Density | N-blows/ft | Consistency | Est. UCS-$q_u$ (psf) |
| 0 – 4 | very loose | 0 – 2 | Very Soft | < 500 |
| 5 – 10 | loose | 2 – 5 | Soft | 500 – 1,000 |
| 11 – 24 | medium dense | 5 – 10 | Medium | 1,001 – 2,000 |
| 25 – 50 | dense | 10 – 20 | Stiff | 2,001 – 4,000 |
| 51 – 80 | very dense | 20 – 30 | Very Stiff | 4,001 – 8,000 |
| 81+ | extremely dense | 30 – 60 | Hard | 8,001 – 16,000 |
| | | >60 | Very Hard | > 16,000 |

*Particle Size*

| Particle Size | Material Type |
|---|---|
| Boulders | >12 inches |
| Cobbles | 3 inches to 12 inches |
| Gravel | coarse: ¾" to 3" |
| | fine: #4 to ¾" |
| Sand | coarse: #10 to #4 |
| | medium: #40 to #10 |
| | fine: #200 to #40 |
| Silt/Clay | <#200 |

- Description Modifier: The following terms may be used as qualifiers for mixed soils

| Term Used | Estimated Percent Total | Component | Particle Shape – Applicable to Coarse |
|---|---|---|---|
| Primary | More than 50 | Noun – GRAVEL, SAND, SILT or CLAY | *Angular:* sharp edges and relatively plain sides with unpolished surfaces |
| and or & | 35 – 50 | Gravelly, sandy, silty, clayey, with | *Subangular:* similar to angular but with rounded edges |
| Some | 20 – 35 | **MOISTURE CONTENT DESCRIPTION** | *Subrounded:* nearly plane sides but with well rounded corners and edges |
| | | Dry: absent of moisture, dusty, dry to touch | |
| little | 10 – 20 | Moist: damp but no visible water | Rounded: smoothly curved sides and no edges |
| trace | less than 10 | Wet: visible free water | |

Varved: Horizontal uniform layers or seams of soil(s)
Seam: Soil deposit less than 6" thick
Laminated - Irregular, horizontal and angled seams and partings of soil

Layer: Soil deposit more than 6"thick.
Parting: Soil deposit Jess than 1/8" thick

# UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

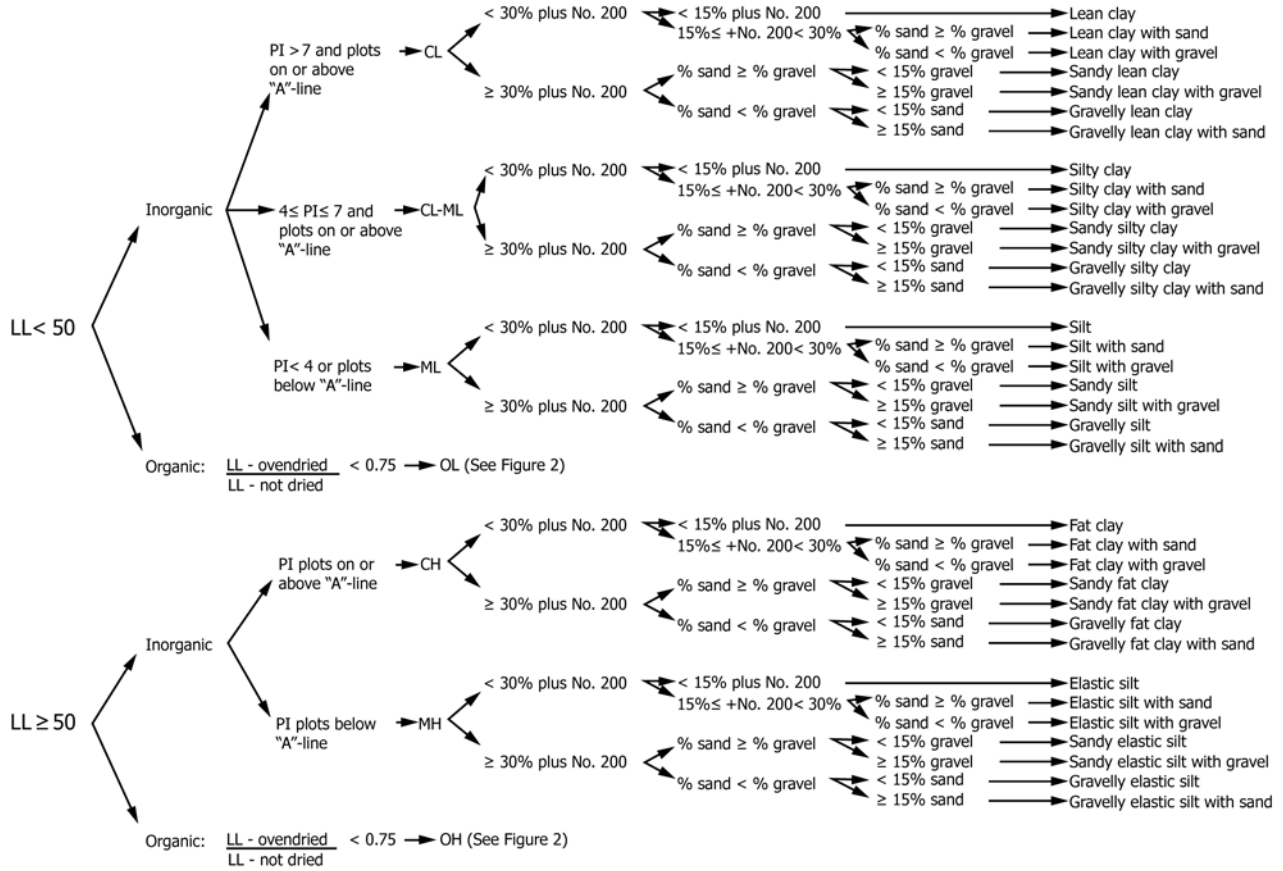



**FIG. 1 Flow Chart for Classifying Fine-Grained Soil (50 % or More Passes No. 200 Sieve)**

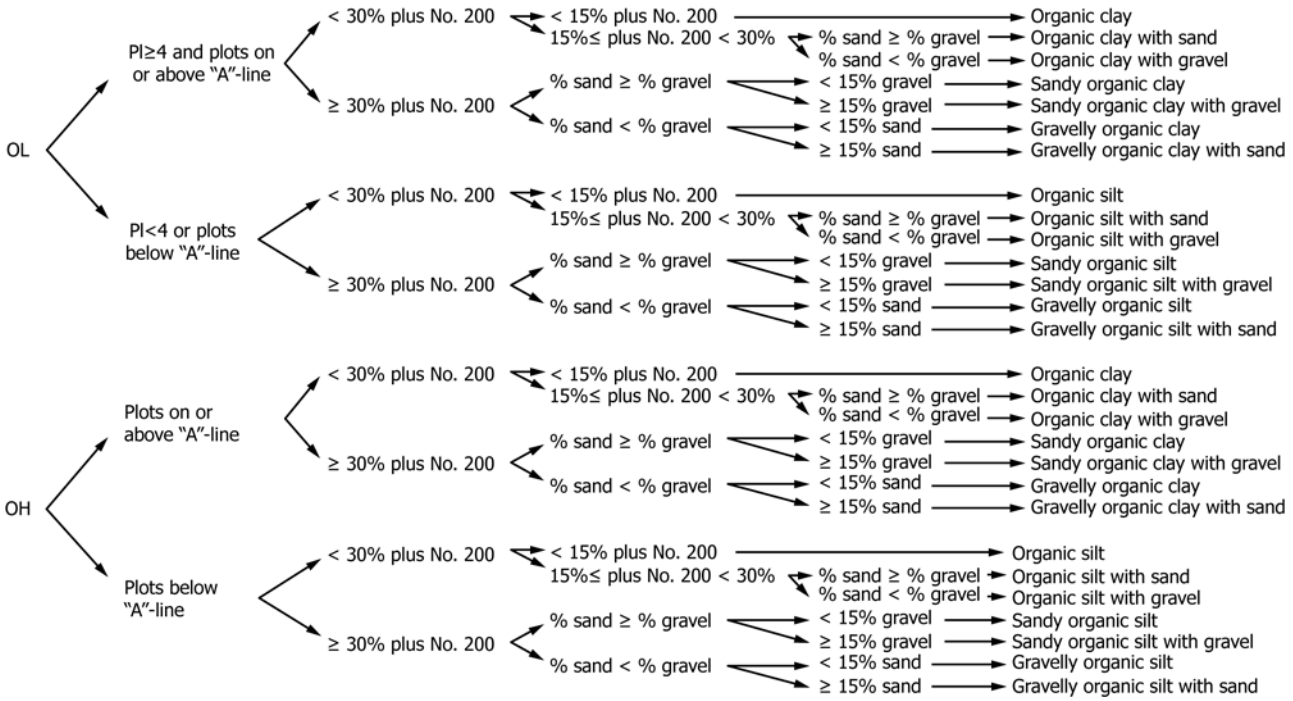



**FIG. 2 Flow Chart for Classifying Organic Fine-Grained Soil (50 % or More Passes No. 200 Sieve)**

Source ASTM D2487

## UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

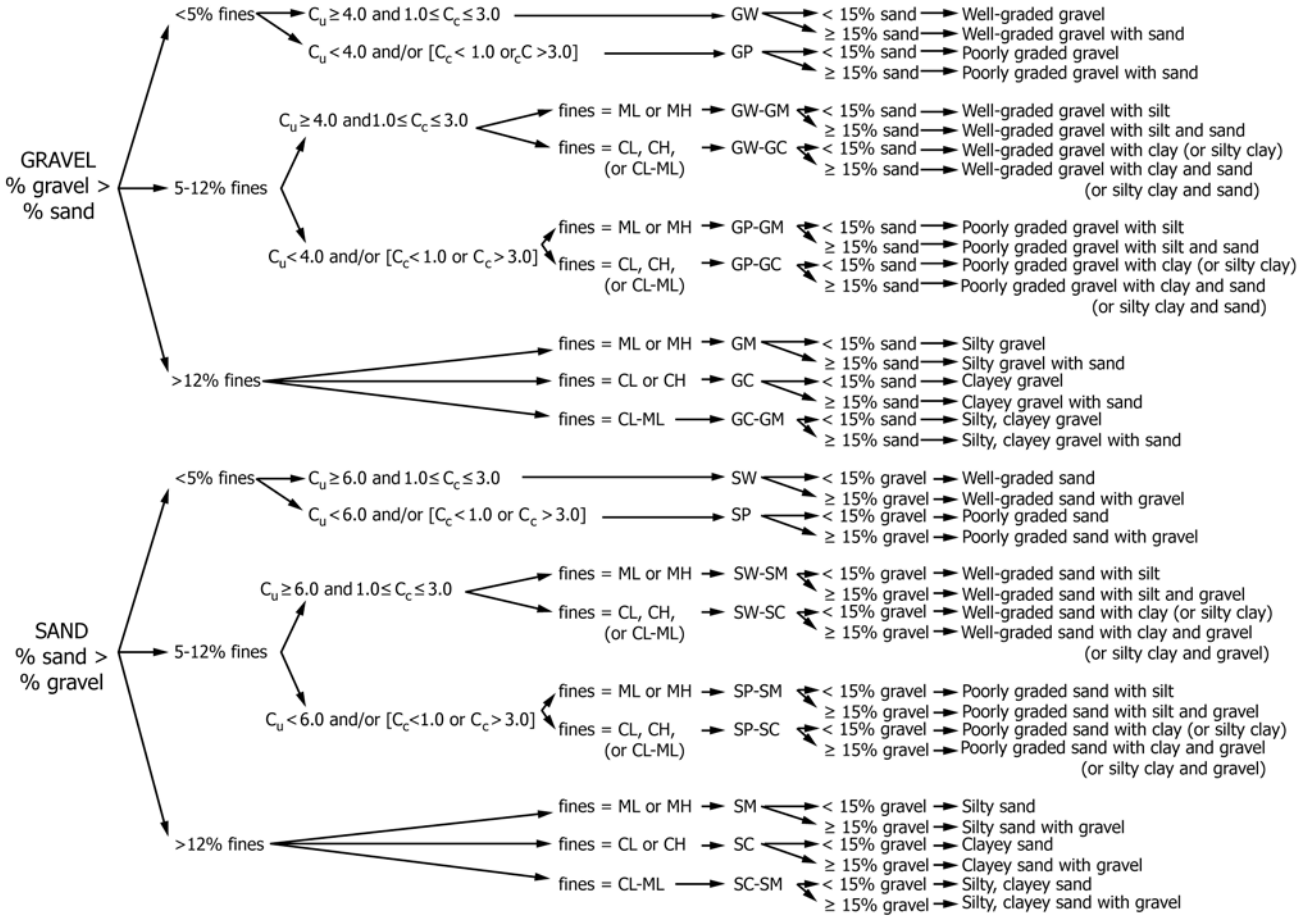



**FIG. 3 Flow Chart for Classifying Coarse-Grained Soils (More Than 50 % Retained on No. 200 Sieve)**

Source ASTM D2487

## UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

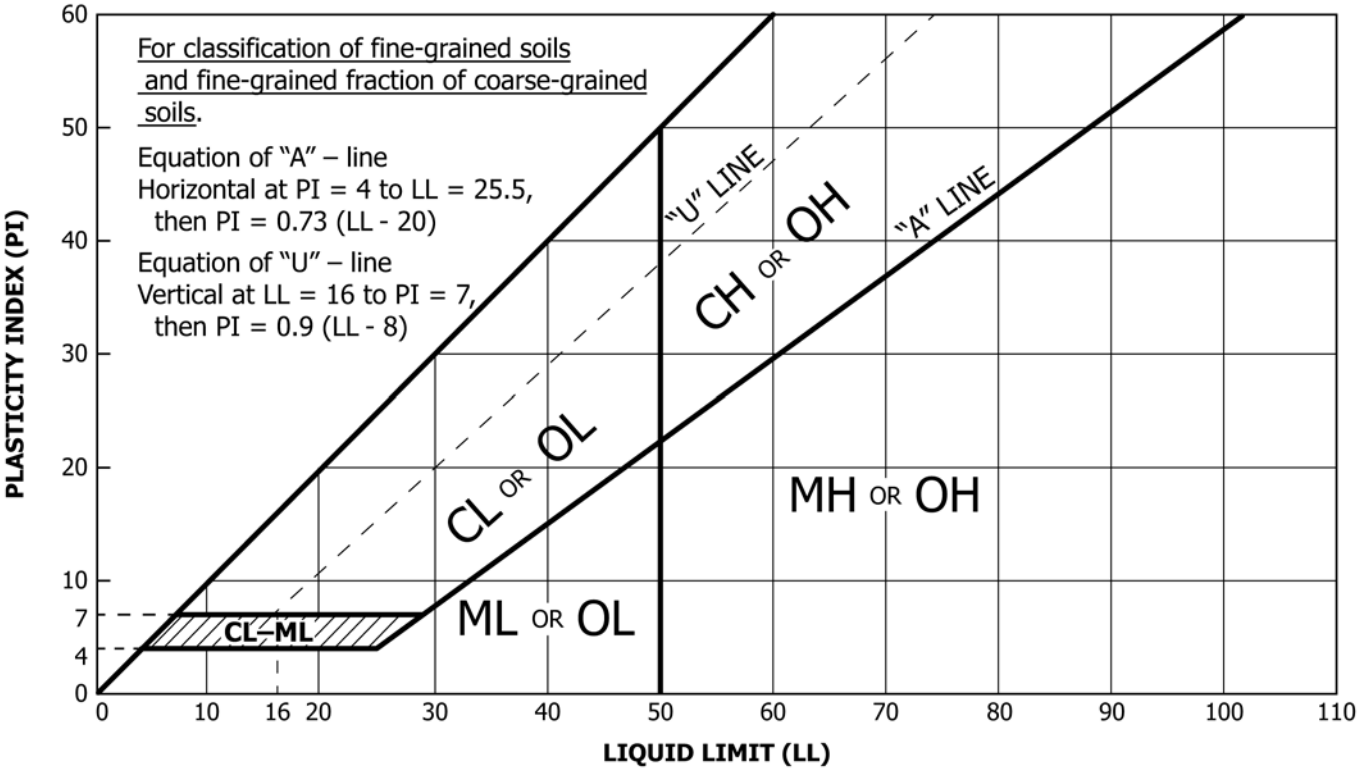



**FIG. 4 Plasticity Chart**

Source ASTM D2487

Renaissance Geotechnical Engineering, PLLC
3049 Hamburg Street
Schenectady, NY 12303
Telephone: 518-902-9222

# KEY TO SYMBOLS

**CLIENT** BELL & SPINA

**PROJECT NAME** NYSOGS 47477 Yonkers Armory Renovation

**PROJECT NUMBER** 25.0015

**PROJECT LOCATION** 2 Quincy Place, Yonkers, New York

## LITHOLOGIC SYMBOLS
## (Unified Soil Classification System)


FILL: Fill (made ground)


SA CL-ML: Sandy Silty Clay


SMG: Silty SAND with Gravel


TOPSOIL: Topsoil

## SAMPLER SYMBOLS


HS: Hollow Stem Auger


Split Spoon

## WELL CONSTRUCTION SYMBOLS

## ABBREVIATIONS

LL - LIQUID LIMIT (%)
PI - PLASTIC INDEX (%)
W - MOISTURE CONTENT (%)
DD - DRY DENSITY (PCF)
NP - NON PLASTIC
-200 - PERCENT PASSING NO. 200 SIEVE
PP - POCKET PENETROMETER (TSF)

TV - TORVANE
PID - PHOTOIONIZATION DETECTOR
UC - UNCONFINED COMPRESSION
ppm - PARTS PER MILLION


Water Level at Time Drilling, or as Shown


Water Level at End of Drilling, or as Shown


Water Level After 24 Hours, or as Shown

KEY TO SYMBOLS - GINT STD US LAB COLOR.GDT - 6/24/25 10:16 - C:\USERS\RENAISSANCE\ONEDRIVE - RENAISSANCE GEOTECHNICAL ENGINEERING, PLLC\- PROJECTS\- 2025\- OGS PROJECTS\25.0015 - OGS 47477 RENOVATE STATE ARMORY NATIONAL GUAR

**Attachment 3**

**Expanded Laboratory Test Result Graphs**

Renaissance Geotechnical Engineering, PLLC
3049 Hamburg Street
Schenectady, NY 12303
Telephone: 518-902-9222

# SUMMARY OF LABORATORY RESULTS



**CLIENT** BELL & SPINA

**PROJECT NAME** NYSOGS 47477 Yonkers Armory Renovation

**PROJECT NUMBER** 25.0015

**PROJECT LOCATION** 2 Quincy Place, Yonkers, New York

| Borehole | Depth | Liquid Limit | Plastic Limit | Plasticity Index | Maximum Size (mm) | %<#200 Sieve | Class-ification | Water Content (%) | Dry Density (pcf) | Satur-ation (%) | Void Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B-1 | 2.0 | NP | NP | NP | 25 | 36 | SM | 8.6 | | | |
| B-1 | 8.0 | 22 | 16 | 6 | 19 | 70 | CL-ML | 17.5 | | | |
| B-1 | 10.0 | NP | NP | NP | 25 | 25 | SM | 7.8 | | | |
| B-1 | 15.0 | NP | NP | NP | 50 | 37 | SM | 6.9 | | | |

LAB SUMMARY - GINT STD US LAB COLOR.GDT - 6/24/25 10:15 - C:\USERS\RENAISSANCE\ONEDRIVE - RENAISSANCE GEOTECHNICAL ENGINEERING, PLLC\- PROJECTS\- 2025\- OGS PROJECTS\25.0015 - OGS 47477 RENOVATE STATE ARMORY NATIONAL GUARD

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3049 Hamburg Street
Schenectady, NY 12303
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Fax: 518-630-6757

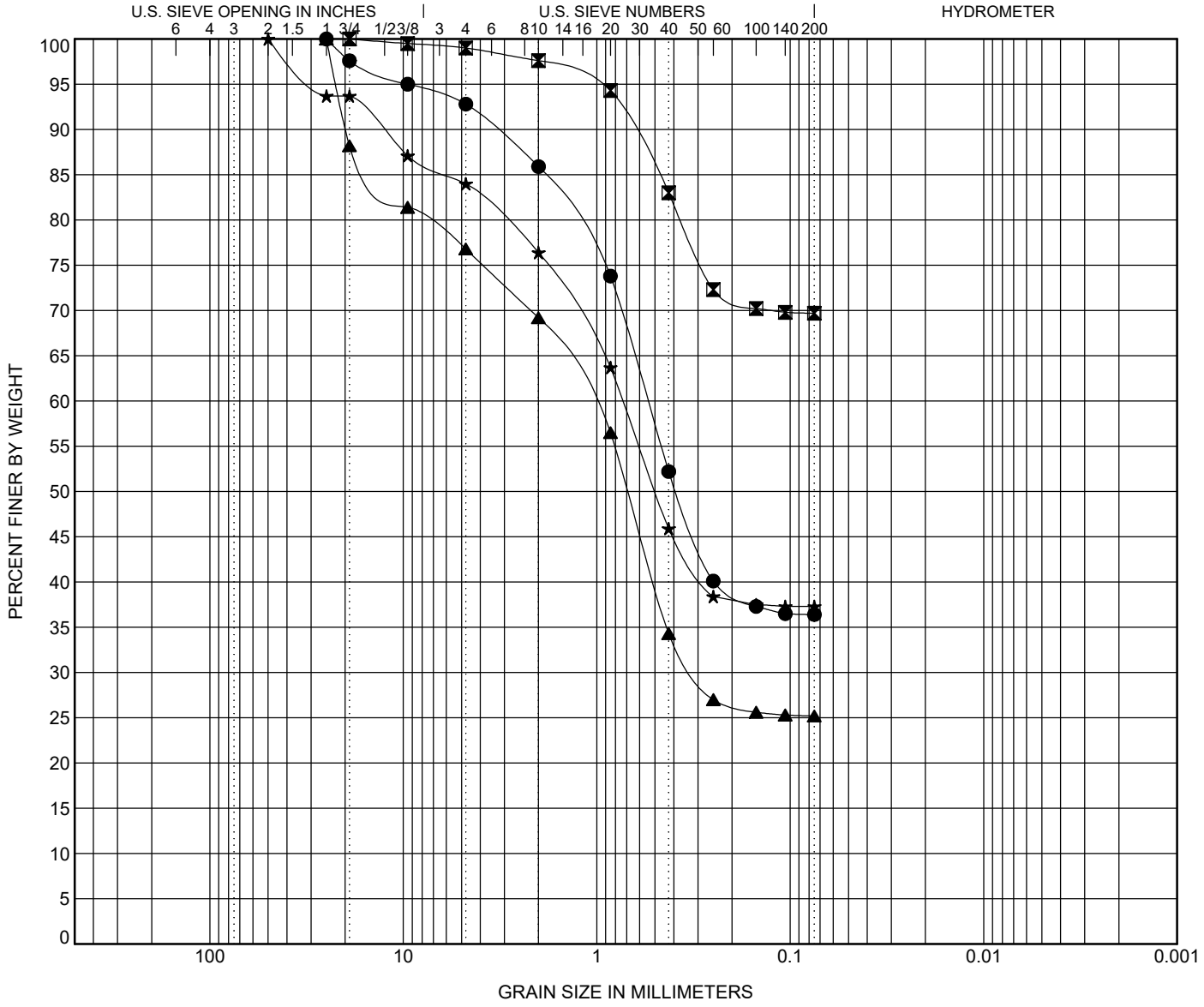
# GRAIN SIZE DISTRIBUTION

**CLIENT** BELL & SPINA

**PROJECT NAME** NYSOGS 47477 Yonkers Armory Renovation

**PROJECT NUMBER** 25.0015

**PROJECT LOCATION** 2 Quincy Place, Yonkers, New York




| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
|---|---|---|---|---|---|---|
| | coarse | fine | coarse | medium | fine | |

| | BOREHOLE | DEPTH | Classification | LL | PL | PI | Cc | Cu |
|---|---|---|---|---|---|---|---|---|
| ● | B-1 | 2.0 | SILTY SAND(SM) | NP | NP | NP | | |
| ⊠ | B-1 | 8.0 | SANDY SILTY CLAY(CL-ML) | 22 | 16 | 6 | | |
| ▲ | B-1 | 10.0 | SILTY SAND with GRAVEL(SM) | NP | NP | NP | | |
| ★ | B-1 | 15.0 | SILTY SAND with GRAVEL(SM) | NP | NP | NP | | |

| | BOREHOLE | DEPTH | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|---|---|
| ● | B-1 | 2.0 | 25 | 0.546 | | | 7.2 | 56.4 | 36.4 | |
| ⊠ | B-1 | 8.0 | 19 | | | | 1.0 | 29.3 | 69.7 | |
| ▲ | B-1 | 10.0 | 25 | 1.076 | 0.311 | | 23.2 | 51.6 | 25.2 | |
| ★ | B-1 | 15.0 | 50 | 0.736 | | | 16.0 | 46.7 | 37.3 | |

GRAIN SIZE - GINT STD US LAB COLOR.GDT - 6/23/25 17:06 - C:\USERS\ALDIO\ONEDRIVE - RENAISSANCE GEOTECHNICAL ENGINEERING, PLLC\- PROJECTS\- 2025\- OGS PROJECTS\25.0015 - OGS 47477 RENOVATE STATE ARMORY NATIONAL GUARD, YONKERS, N

**Attachment 3**

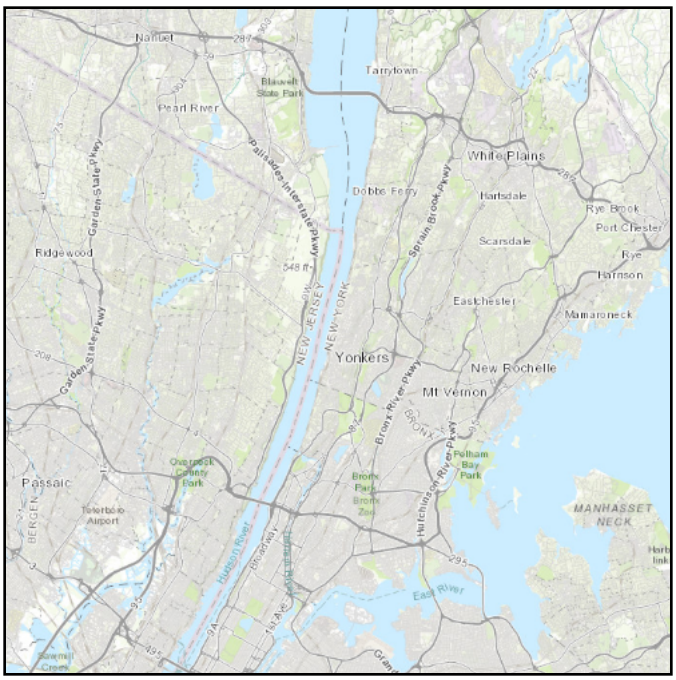
**Seismic Output Data**

# ASCE Hazards Report

**Address:**
2 Quincy Pl
Yonkers, New York
10701

| | | | |
|---|---|---|---|
| **Standard:** | ASCE/SEI 7-16 | **Latitude:** | 40.938352 |
| **Risk Category:** | II | **Longitude:** | -73.89689 |
| **Soil Class:** | D - Default (see Section 11.4.3) | **Elevation:** | 99.30562790218944 ft (NAVD 88) |



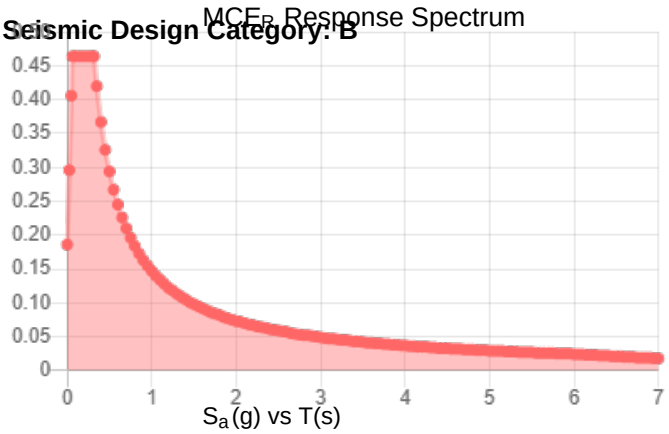
# Seismic

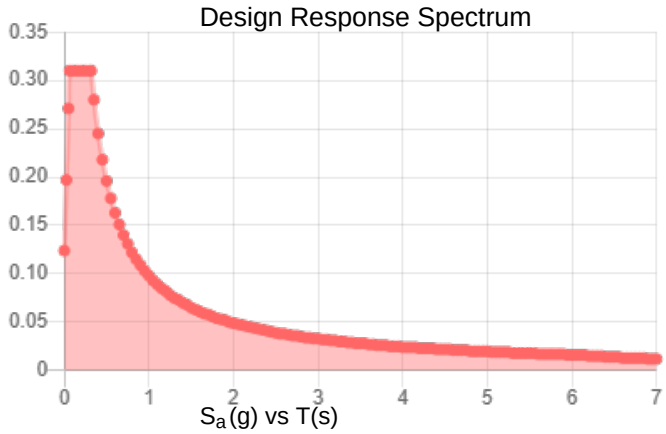
**Site Soil Class:** D - Default (see Section 11.4.3)

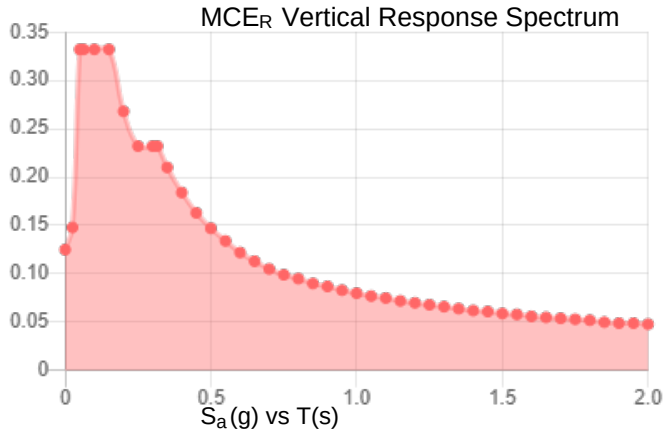
**Results:**

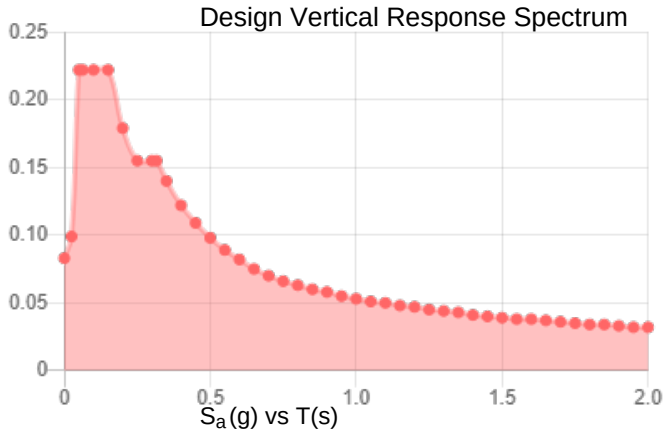
| | | | |
|---|---|---|---|
| $S_S$ : | 0.297 | $S_{D1}$ : | 0.098 |
| $S_1$ : | 0.061 | $T_L$ : | 6 |
| $F_a$ : | 1.562 | PGA : | 0.185 |
| $F_v$ : | 2.4 | $PGA_M$ : | 0.264 |
| $S_{MS}$ : | 0.464 | $F_{PGA}$ : | 1.431 |
| $S_{M1}$ : | 0.147 | $I_e$ : | 1 |
| $S_{DS}$ : | 0.31 | $C_v$ : | 0.894 |

**Seismic Design Category: B**




**Data Accessed:** **Tue Jun 24 2025**

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.**

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Ambient Environmental, Inc.
Building Science and EHS Solutions
NYS Certified WBE,
SBA EDWOSB & DBE

April 28, 2025

Mr. James Paolini
Bell & Spina Architects
215 Wyoming Street
Syracuse, NY 13204
Ph. 315-488-0377
M. 315-436-7736
jpaolini@bellandspina.com

RE: Hazardous Materials Survey Report
Pre-Renovation
Asbestos, Lead-Based Paint, and PCB in Caulk
Yonkers Armory
127 N Broadway
Yonkers, NY 10701
Ambient Project Number: 250204AA

Dear Mr. Paolini:

Ambient Environmental, Inc. is pleased to submit the attached Hazardous Materials Survey Report for asbestos, lead-based paint, and polychlorinated biphenyls (PCB) in caulk at the above-referenced site. This report includes the procedures and methodologies followed, analytical laboratory results, and applicable conclusions and recommendations.

Ambient appreciates the opportunity to serve Bell & Spina Architects and we look forward to working with you in the future. In the meantime, if you have questions or comments regarding the information in this report or if we can be of further assistance, please do not hesitate to contact us.

Sincerely,
Ambient Environmental, Inc.

C.D. Wolford
Operations Lead

Kevin Jones
Inspector
Asbestos License # 24-6LTTH-SHAB

Enclosure

Ambient Environmental, Inc.
Building Science and EHS Solutions
NYS Certified WBE,
SBA EDWOSB & DBE

# HAZARDOUS MATERIALS SURVEY
# Pre-Renovation
## *Asbestos, Lead-Based Paint, and PCB in Caulk*

*Yonkers Armory*
*127 N Broadway*
*Yonkers, NY 10701*

*Survey Date(s): April 7-8, 2025*

Prepared for:

**Mr. James Paolini**
**Bell & Spina Architects**
215 Wyoming Street
Syracuse, NY 13204

Prepared by:

**Ambient Environmental, Inc.**
828 Washington Ave.
Albany, New York 12203

Ambient Project No. 250204AA

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## ATTACHMENTS

Attachment A Asbestos Results and Asbestos Laboratory Analysis Report with Chain of Custody Documentation

Attachment B Lead-Based Paint Testing Results

Attachment C PCB Results and Laboratory Analysis Report with Chain of Custody Documentation

Attachment D Hazardous Material Location Drawings

Attachment E Photographic Documentation

Attachment F Company, Inspector and Laboratory Accreditations and Licenses

Attachment G Historical Documentation

## 1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this project was to conduct a pre-renovation hazardous materials survey for asbestos, lead-based paint (LBP), and polychlorinated biphenyls (PCB) in caulk at Yonkers Armory, 127 N Broadway, Yonkers, NY 10701 (The Site). The areas inspected were the interior and exterior of the building with the exception of the roof. Ambient was provided with historical survey reports that were utilized for this inspection and only sampled materials that had not previously been sampled. Please review the Historical Reports located in attachment G for additional information. Ambient Environmental, Inc. (Ambient) provided the following services for Bell & Spina Architects (Client) in accordance with Ambient proposal number 2025-02-0068.

Conduct a representative Hazardous Materials Survey in the identified building, which includes:

- Survey the site building.
- Identify accessible suspect asbestos-containing materials (ACMs) that were not previously tested using limited destructive means.
- Quantify ACMs, including material condition and location.
- Collect and analyze bulk samples of suspect friable and non-friable materials to eliminate suspect materials as asbestos containing.
- Conduct a limited lead-based paint inspection of the building with a Viken Detection Pb200e Lead Paint Analyzer.
- Collect and analyze bulk samples of potential PCB containing window/door caulk.

## 2.0 EXECUTIVE SUMMARY

The inspection was conducted by NYS licensed and AHERA trained asbestos inspectors and trained lead inspectors. The inspection involved visual examinations and sampling of suspect materials that may be impacted by planned renovation projects.

Inspection results revealed the following findings:

- **The renovation area does contain asbestos containing materials**
- **The renovation area does contain lead-based paint**
- **The renovation does not contain PCBs in caulk**

Please see attachments and specific report sections for sample locations, type of materials and analytical results.

## 3.0 ASBESTOS-CONTAINING MATERIALS SURVEY

Ambient performed an asbestos-containing material survey for planned renovations at the subject property. Ambient examined previous reports, if available, to determine if adequate sampling was performed in the work areas and collected additional samples that appeared to be deficient. New York State certified and AHERA trained asbestos inspectors conducted the asbestos survey of the area.

The building was visually inspected for the presence of any additional building materials in the path of renovation that are suspected to contain asbestos. Bulk samples of the newly identified suspect ACMs were collected and placed into individual containers for transport to a National Voluntary Laboratory Accreditation Program (NVLAP) and a New York State Department of Health Environmental Laboratory Approval Program (ELAP)-accredited laboratory for analysis. Materials visibly identified as non-asbestos (fibrous glass, foam rubber, wood, etc.) were not sampled. The asbestos survey consisted of three basic procedures: **1)** conducting a visual inspection of the structures; **2)** identifying homogeneous areas (HAs) of suspect surfacing, thermal system insulation, and miscellaneous materials; and **3)** sampling accessible, friable and non-friable suspect materials.

## 3.1 Sampling Protocol

### *3.1.1 Homogeneous Areas*

Prior to collecting any samples, HAs were identified and listed to develop a sampling strategy. A homogeneous sampling area can be described as one or more areas of material that are similar in appearance and texture and that have the same installation date and function. The actual number of samples collected from each homogeneous sampling area may vary, based on the type of material and the professional judgment of the inspector.

### *3.1.2 Hazard Assessment Factors*

From the list of suspect homogeneous materials, a physical assessment was performed for each material on the list. A physical assessment includes evaluating the condition, assessing the potential for disturbance, and determining the friability of each material. Friability is a term used to describe the ease in which a building material inherently lends itself to disturbance. By definition, "friable" materials are those that can be crumbled or reduced to powder by hand pressure when dry. Each material on the list was further classified into one of three categories, which have specific sampling requirements for each category.

| | |
|---|---|
| Surfacing Materials: | Refers to spray-applied or troweled surfaces such as plaster ceilings and walls, fireproofing, textured paints, textured plasters, and spray-applied acoustical surfaces. |
| Thermal System Insulation: | Refers to insulation used to inhibit heat gain or loss on pipes, boilers, tanks, ducts, and various other building components. |
| Miscellaneous Materials: | Refers to friable and non-friable products and materials that do not fit in any of the above two categories such as resilient floor covering, baseboards, mastics, adhesives, roofing material, caulking, glazing, and siding. This category also contains wallboard and ceiling tile. |

All confirmed ACMs were then assessed by their condition as good (intact), fair (damaged) or poor (significantly damaged) per Title 40 Code of Federal Regulations Part 763. Material with localized significant damage was also assessed as poor when observed.

### *3.1.3 Sampling Strategy*

The asbestos inspection was conducted according to New York State Department of Labor Industrial Code Rule 56 guidelines using a minimum number of samples collected from each HA, which also meets the sampling requirement found in 29 CFR 1926.1101.

Sample collection depends on the category that the HA falls into and the amount of material present, as follows:

| GUIDELINES FOR DETERMINING THE NUMBER OF SAMPLES TO TAKE | | |
|---|---|---|
| **HA CATEGORY** | **HA SIZE** | **SAMPLES REQUIRED** |
| Surfacing Materials | <1,000 SF | 3 |
| | 1,000-5,000 SF | 5 |
| | >5,000 SF | 7 or more |
| Thermal System Insulation | No Stipulation | 3+ (Must also sample all repair patches) |
| Miscellaneous Materials | No Stipulation | Per AHERA, these materials must be sampled "in a manner sufficient to determine whether or not they contain asbestos" typically 2-3 samples based upon inspector judgment. |

If the analytical results indicated that all the samples collected per HA did not contain asbestos, then the HA (material) would be considered a non-ACM. However, if the analytical results of one or more of the samples collected per HA indicate that asbestos is present in quantities of greater than 1 percent asbestos by weight (as defined by EPA), all of the HA (material) would be treated as an ACM regardless of any other analytical results. Material, which can visually be determined to be non-asbestos (i.e., fibrous glass, foam rubber, etc.) by the accredited inspector are not required to be sampled.

Miscellaneous materials require adequately representative sampling, which is typically done by collecting from two to three samples per material. Inspectors typically rely on other survey observations such as the condition, friability, and quantity of material to determine what would be a sufficient number of samples to accurately evaluate the presence or absence of asbestos content.

Actual collection of a bulk asbestos sample involves physically removing a small piece of material and placing it in a marked, airtight container. Sample containers are marked with a unique identification number, which is also noted in the field notes.

### *3.1.4 Laboratory Analytical Results*

Samples were sent to AmeriSci New York in New York, New York for analysis. AmeriSci is fully accredited for bulk sample analysis under the Environmental Laboratory Approval Program (ELAP) administered by the New York State Department of Health, (ELAP# 11480). AmeriSci is also accredited by the National Voluntary Laboratory Accreditation Program (NVLAP No. 200546-0) for both air and bulk sampling.

- *Friable Samples* – Friable suspect asbestos containing material samples were analyzed utilizing Method EPA/600/R-93/116 with New York State ELAP 198.1 revision to facilitate compliance with both AHERA and the New York State Department of Health polarized light

microscopy (PLM) analytical techniques. All fibers observed were identified to determine whether or not they contained asbestos.

- *Non-Friable Samples* – Non-friable organically bound (NOB) suspect asbestos containing material samples were analyzed utilizing Method EPA/600/R-93/116 with New York State ELAP 198.6 and 198.4 revisions to facilitate compliance with both AHERA and the New York State Department of Health polarized light microscopy (PLM) and transmission electron microscopy (TEM) analytical techniques. These non-friable organically bound samples must be weighed to record initial sample weights, then subjected to muffle furnace and acid bath sample preparation to eliminate the organic constituents. If the remaining inorganic sample residue is 1% or less of the original sample weight, the sample is considered a non-asbestos containing material. If the remaining inorganic sample residue is greater than 1% of the original sample weight then the sample must be analyzed using either PLM or TEM analytical techniques to determine that the sample is an asbestos containing material (positive) or TEM to prove that the sample is a non-asbestos containing material (negative). A non-friable organically bound sample must be proven a non-asbestos containing material utilizing the NYS ELAP 198.4 TEM test method to be in compliance with the New York state Department of Health.

### 3.2 Asbestos Containing Material Results

The results of the asbestos survey conducted at the subject property can be found in Attachment A.

The building survey included limited destructive sampling for "hidden" materials. Therefore, the results of this survey may not be inclusive of <u>all</u> asbestos containing material that may be present in the pathway of demolition. If, during the course of renovation, any suspect material is discovered that is not listed on the table in Attachment A it must be treated as asbestos containing material and handled appropriately or sampled by an inspector and analyzed according to NYS and EPA regulations.

One (1) copy of the results of the building/structure asbestos survey shall be immediately transmitted by the building/structure owner as follows:

- One (1) copy of the completed asbestos survey shall be sent by the owner or their agent to the local government entity charged with issuing a permit for such demolition, renovation, remodeling or repair work under applicable State or local laws.
- The completed asbestos survey for controlled demolition (as per Subpart 56-11.5) or pre-demolition asbestos projects shall also be submitted to the appropriate Asbestos Control Bureau district office.
- The completed asbestos survey shall be kept on the construction site with the asbestos notification and variance, if required, throughout the duration of the asbestos project and any associated demolition, renovation, remodeling or repair project.

## 4.0 LEAD-BASED PAINT SURVEY

Ambient conducted a limited lead-based paint (LBP) investigation of building components which will be affected by proposed renovation work. The purpose of this investigation was to assess if building components contain actionable quantities of lead-based paint.

The U.S Environmental Protection Agency (EPA) and U.S. Department of Housing and Urban Development (HUD) has established a definition of lead-based paint as a paint or other surface coating that contains lead equal to or greater than 1.0 mg/cm$^2$ or 0.5% by weight (equivalent units are: 5,000 µg/g, 5,000 mg/kg, or 5,000 ppm by weight). Surface coatings include paint, shellac, varnish, or any other coating, including wallpaper, which covers painted surfaces. A limited inspection for lead-based paint using XRF instrumentation was conducted to determine if lead coated surfaces were affected. This inspection was not in full compliance with HUD guidelines.

### 4.1 Sampling Protocol

#### *4.1.1 Methodology*

Testing was performed using X-Ray Fluorescence in situ analysis (XRF) of painted construction materials. Ambient utilized the Pb200e analyzer manufactured by Viken Detection for this survey.
The Pb200e Lead Paint Analyzer is a complete lead paint analysis system that quickly, accurately, and non-destructively measures the concentration of LBP on surfaces. The Pb200e relies on the measurement of the K-shell X-rays to determine the amount of lead present in the painted surface. K-shell X-rays can penetrate many layers of paint and allow a measurement of the lead content of paint to be made without being significantly affected by the thickness or number of layers of paint on the surface of the sample.

The Pb200e can analyze and compute corrections for the differences in the energy spectrums relating to different substrates. This analysis of the energy spectrum means that the lead paint reading displayed on the instrument already accounts for any substrate effects and correction is not required by the operator. The Pb200e's field of view is limited to a depth of 3/8", deep enough to handle virtually all painted surfaces, but not prone to detect lead objects located behind the surface.

There are two measurement modes of operation in the Pb200e analyzer namely the "Action Level Mode" and the "Extended Reading Mode. In the "Action Level" mode, the analyzer automatically adjusts the measurement time to be the least time that is needed to make a definitive measurement with a 95% confidence level (2-sigma). The Pb200e analyzer will finish a measurement once the 2-sigma confidence level is achieved, and the data is statistically meaningful. This time period for conclusive measurements is typically between 1 to 5 seconds but can extend to a measurement of 60 seconds depending on the action level for abatement. Ambient utilized the Pb200e in the "Action Level" mode for the testing performed.

Upon arrival at the job site and once every four hours or after the day’s paint testing work was completed, a "validation test" was performed to assure that the instrument was operating properly. The “validation test” includes taking a series of three test measurements on the NIST

Paint Film Standard (SRM No. 2579) as required by the instrument's PCS. The individual readings and an average of the three readings were recorded and compared to the standards. In all cases the instrument was functioning within the standard deviation as defined by the manufacturer and the PCS. All validation readings are recorded in the XRF in the order in which they were taken at the site. If for any reason the XRF does not pass the quality control procedures, it is Ambient's policy to replace that instrument with an XRF that passes the above criteria for calibration.

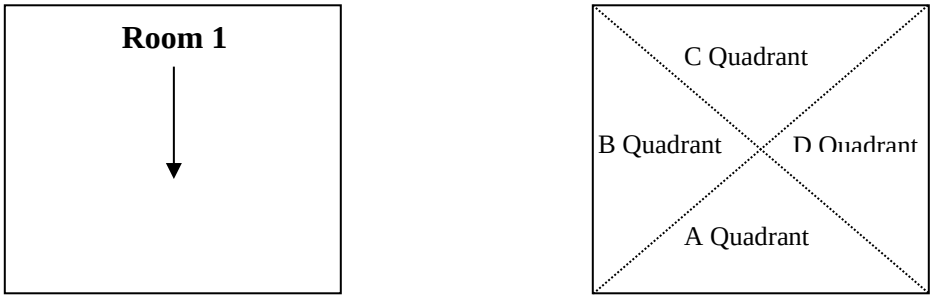
The parameters used to interpret XRF results are outlined in the HUD Guidelines and the Performance Characteristics Sheet (PCS) in Attachment B. According to the PCS, each XRF result is classified as positive for LBP if the result is greater than or equal to 1.0 mg/cm2 or negative for LBP if the result is below 1.0 mg/cm2.

**When measurable amounts of lead are reported in the XRF result, the paint is classified by OSHA as a lead containing material.**

*4.1.2 Strategy*

Location identifiers (reading numbers) were assigned to each room component. Each location sampled has a unique number. The associated sample results will be listed by room number, room location, room name, location in the space and description of material sampled. By convention a sample location is assigned a letter designator for each of the four walls. This divides the space into four equal quadrants, each quadrant consisting of a wall, portion of the floor and a portion of the ceiling. Please see Diagram 1. These letter designators are A, B, C and D. On the diagrams provided, the letter designators are marked for each of the quadrants. In this fashion the sampled space, location in the space and the description of the material sampled can be identified on the attached drawings and associated results table.

***Diagram 1***




## 4.2 Lead-Based Paint Results

The results of the lead-based paint survey conducted at the subject property can be found in Attachment B.

### 4.3 Recommendations

Any contractor disturbing a lead-based or lead containing paint is directed to comply with all applicable laws and regulations governing the disturbance of lead-based or lead containing materials including but not limited to *Occupational Safety and Health Administration (OSHA)* standards including *Construction Lead Standard 29 CFR 1926.62*. Air monitoring for employee exposures should be performed in accordance with the National Institute for Occupational Safety and Health (NIOSH) 7300 Method or equivalent. As an alternative to air monitoring, the contractor may provide objective data per 29 CFR 1926.62 Section (d)(3)(iv). The contractor shall employ work practices and controls to prevent the occurrence of lead contamination at the Site.

## 5.0 POLYCHLORINATED BIPHENYL (PCB) SURVEY

Ambient sampled suspect PCB containing caulk that could be impacted by the upcoming renovation and analyzed it for Polychlorinated Biphenyl (PCB) content.

The PCB survey involved a visual examination and sampling of caulk materials that may be impacted by the planned renovation projects. PCB, or Polychlorinated Biphenyl, was used in various products including caulking material from 1930 to approximately 1979 when PCB were banned by Congress. PCB are listed to be Probable Human Carcinogens by the ATSDR (Agency for Toxic Substances and Disease Registry), the National Cancer Institute and the World Health Organization.

PCB-containing materials are regulated under the Toxic Substances Control Act (TSCA) and 40 CFR 761 and are considered a regulated hazardous material at concentrations equal to or greater than 50 ppm (50,000 ppb). PCB must be segregated from construction debris and then be taken to a hazardous waste landfill in accordance with U.S. EPA regulations under the Toxic Substances Control Act (40 CFR761.62) and NYSDEC hazardous waste regulations (6NYCRR370-373). PCB can also be incinerated at an approved facility. There are also alternative methods for PCB destruction.

Bulk samples were collected and submitted to Schneider Labs, 2512 W. Cary Street, Richmond, Virginia. The samples were analyzed using EPA SW-846 Method 8082 PCB by Gas Chromatography.

### 5.1 Polychlorinated Biphenyls (PCB) Results

The results of the PCB survey conducted can be found in Attachment C.

## 6.0 ASSUMPTIONS, LIMITATIONS, AND OTHER CONCERNS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were noted during the inspection of the subject property.

- Ambient's selection of sample locations and frequency of sampling was based on observations and the assumption that like materials in the same area are homogeneous in content.

- Refer to Section 1.0 Purpose and Scope of Services of this report to see clarification of survey locations that were in our scope of work.
- Limited wiring and electrical components were inspected as the building power was live at the time of the survey. No cloth covered wiring or transite type electrical components were observed. Other components that were not observed may contain asbestos.
- Ambient inspected mirrors located throughout the building and determined that the ones with metal frames typically located above the sinks appear to have a hanger bracket. There are some pieces of mirror glass that do appear to be glued to the wall. These mirrors may have glue dabs that contain asbestos.
- Ambient observed to the best of their ability the inside of ductwork and other building mechanical systems but destruction or disassembly is required to gain complete access. These items may contain asbestos.
- Ambient performed limited inspection of exterior areas below grade in the location of the proposed elevator. Buried piping, and other items may exist below grade which may contain asbestos.
- Floor levelers, seam sealers, adhesives, concrete sealers, and other materials below flooring layers may exist. The limited destructive nature of sampling may not have discovered these materials as only small areas of large expanses of flooring are accessed. The removal of flooring and mastics is to include the removal of these items as well and all other materials down to the concrete substrate.
- The components of the windows/doors that were accessible without demolition were inspected. Limited intrusive demolition was performed during this inspection. There may be additional materials concealed beneath or behind window/door frames. Only full removal of the window/door unit would reveal these materials.
- The lead-based paint inspection was limited to representative accessible painted surfaces that are expected to be impacted by the planned renovation or demolition as of the date of the inspection. Representative locations were selected based on available information including construction and renovation history, conditions observed during the paint inspection and inspector safety when accessing the surfaces. OSHA requires the use of lead safe work practices to protect employees who are disturbing any lead containing material including, but not limited to, components coated with lead-based paint or varnish.
- Ambient relied on historical sampling data provided by the client if the analysis methods met current regulatory requirements.
- Ambient drilled several holes in walls but raw vermiculite insulation was not found during this inspection; however, vermiculite insulation may exist in concealed spaces in the building. Currently, there is no approved analytical methodology to confirm vermiculite as non-asbestos; therefore, it automatically must be contaminated with asbestos in New York State. If encountered during renovation it must be handled as an asbestos containing material. Please refer to this link for more information http://www2.epa.gov/asbestos/protect-your-family-asbestos-contaminated-vermiculite-insulation

- Although there was no asbestos containing Thermal System Insulation (TSI) or pipe insulation found there may be TSI or pipe insulation found in unseen cavities or wet walls. A reasonable attempt was made to identify all TSI without performing full demolition.
- Ambient performed limited coring/destructive sampling of floors, walls, and ceilings during the inspection. However, only full demolition would reveal "hidden" asbestos containing materials. Care should be taken during demolition/renovation of the building.
- This report reflects the conditions found at the date and time of the inspections. Conditions of the area may change due to external events or forces. Re-inspection of the area may be required prior to the start of any work if an extended period has passed or if disturbances have occurred.
- All locations on drawings are approximate and all quantities are estimated. Any contractor or other user of this report is required to physically visit the site to verify all measurements and confirm the quantities of materials to be removed, to be bid for removal, or for any other purpose.

All construction personnel, as well as individuals who have access to locations where ACM exists, should be informed of its presence and the proper work practices in these areas. Conspicuous labeling of all ACM is suggested to ensure personnel is adequately informed. Personnel should be informed not to rest, lean or store material or equipment on or near these surfaces and not to cut, saw, drill, sand or disturb ACM. All removal, disturbance and repair of ACM should be performed in compliance with Title 12 NYCRR Part 56 by persons properly trained to handle ACM. Facility custodial and maintenance personnel should receive training commensurate with their work activities; as defined in 29 CFR 1910.1001.

The report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos or lead abatement contractors in locating ACM. Under no circumstances is the report to be utilized as a bidding document or as a project specification document since it does not have all the components required to serve as an Asbestos Project Design document or an Abatement Workplan.

Our professional services have been performed, our findings obtained, and our conclusions and recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

Ambient inspected and sampled materials, which were observable and accessible to the survey team. It is possible, however, that additional suspect materials may exist within interstitial spaces (i.e. underground chases, plenums, wall cavities, beneath pavement/asphalts pathways, etc.), which were not accessible or not made accessible and as a result, not noted in this report.

If questions arise regarding asbestos in materials/locations that were not tested by Ambient, then additional survey services should be procured to test these locations. Ambient makes no representation or warranty concerning the standards and specifications provided in applicable regulations. Any materials that have not been tested and/or found during future investigation must be assumed positive for asbestos, lead-based paint and/or PCB (if applicable).

# ATTACHMENT A

## ASBESTOS RESULTS AND ASBESTOS LABORATORY ANALYSIS REPORT WITH CHAIN OF CUSTODY DOCUMENTATION

# *BELL & SPINA ARCHITECTS*
## *YONKERS ARMORY*
## *127 N BROADWAY, YONKERS, NY 10701*
## *SUMMARY OF ASBESTOS SAMPLES AND ANALYSIS RESULTS*

| Homogeneous Area Number | Bulk Sample ID Number | Sampled Material (T, S, M) | Sample Location | Friability (N/F) | Condition (G, D, SD) | Quantity | Homogeneous Area | Asbestos Content (Type & %) |
|---|---|---|---|---|---|---|---|---|
| 001 | 01 | Foil Faced Duct Insulation (T) | Upper Level – Conference Room 111 | N | G | N/A | N/A | NAD |
| 001 | 02 | Foil Faced Duct Insulation (T) | Upper Level – Conference Room 111 | N | G | N/A | N/A | NAD |
| 001 | 03 | Foil Faced Duct Insulation (T) | Upper Level – Conference Room 111 | N | G | N/A | N/A | NAD |
| 002 | 01 | Gray Duct Sealer (M) | Upper Level – Room 118 | N | G | N/A | N/A | NAD |
| 002 | 02 | Gray Duct Sealer (M) | Upper Level – Room 118 | N | G | N/A | N/A | NAD |
| 003 | 01 | Foil Backed Heating Pipe Insulation (T) | Upper Level – Room 116 | N | G | N/A | N/A | NAD |
| 003 | 02 | Foil Backed Heating Pipe Insulation (T) | Upper Level – Room 116 | N | G | N/A | N/A | NAD |
| 003 | 03 | Foil Backed Heating Pipe Insulation (T) | Upper Level – Room 116 | N | G | N/A | N/A | NAD |
| 004 | 01 | White Pipe Insulation Mastic (M) | Upper Level – Conference Room 111 | N | G | N/A | N/A | NAD |
| 004 | 02 | White Pipe Insulation Mastic (M) | Upper Level – Conference Room 111 | N | G | N/A | N/A | NAD |
| 005 | 01 | CMU Wall (M) | Upper Level – Corridor | F | G | N/A | N/A | NAD |
| 005 | 02 | CMU Wall (M) | Upper Level – Corridor | F | G | N/A | N/A | NAD |
| 006 | 01 | Red Epoxy Floor (S) | Upper Level – Women's Latrine Room 134 | F | G | N/A | N/A | NAD |
| 006 | 02 | Red Epoxy Floor (S) | Upper Level – Women's Latrine Room 134 | F | G | N/A | N/A | NAD |
| 006 | 03 | Red Epoxy Floor (S) | Upper Level – Women's Latrine Room 134 | F | G | N/A | N/A | NAD |
| 007 | 01 | White Expansion Joint Caulk (M) | Upper Level – Room 127 | N | G | N/A | N/A | NAD |
| 007 | 02 | White Expansion Joint Caulk (M) | Upper Level – Room 127 | N | G | N/A | N/A | NAD |
| 008 | 01 | White Caulk on Window Frame to CMU Wall (M) | Upper Level – Room 127 | N | G | N/A | N/A | NAD |
| 008 | 02 | White Caulk on Window Frame to CMU Wall (M) | Upper Level – Room 127 | N | G | N/A | N/A | NAD |

***BELL & SPINA ARCHITECTS***
***YONKERS ARMORY***
***127 N BROADWAY, YONKERS, NY 10701***
***SUMMARY OF ASBESTOS SAMPLES AND ANALYSIS RESULTS***

| Homogeneous Area Number | Bulk Sample ID Number | Sampled Material (T, S, M) | Sample Location | Friability (N/F) | Condition (G, D, SD) | Quantity | Homogeneous Area | Asbestos Content (Type & %) |
|---|---|---|---|---|---|---|---|---|
| 009 | 01 | Black Window Glazing (M) | Upper Level – Room 127 | N | G | 850 LF or 36 SF (25 Windows) | Upper Level | 9.7% Chrysotile |
| 009 | 02 | Black Window Glazing (M) | Upper Level – Room 127 | N | G | | | NA/PS |
| 010 | 01 | Beige Wall Paint (S) | Upper Level – Room 127 | N | G | N/A | N/A | NAD |
| 010 | 02 | Beige Wall Paint (S) | Upper Level – Room 116 | N | G | N/A | N/A | NAD |
| 010 | 03 | Beige Wall Paint (S) | Upper Level – Room 116 | N | G | N/A | N/A | NAD |
| 010 | 04 | Beige Wall Paint (S) | Upper Level – Room 111 | N | G | N/A | N/A | NAD |
| 010 | 05 | Beige Wall Paint (S) | Upper Level – Room 111 | N | G | N/A | N/A | NAD |
| 011 | 01 | Gray Floor Paint (S) | Upper Level – Room 133 | N | G | N/A | N/A | NAD |
| 011 | 02 | Gray Floor Paint (S) | Upper Level – Room 133 | N | G | N/A | N/A | NAD |
| 011 | 03 | Gray Floor Paint (S) | Upper Level – Room 133 | N | G | N/A | N/A | NAD |
| 012 | 01 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 012 | 02 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 012 | 03 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 012 | 04 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 012 | 05 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 012 | 06 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 012 | 07 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 013 | 01 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 013 | 02 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 013 | 03 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |

***BELL & SPINA ARCHITECTS***
***YONKERS ARMORY***
***127 N BROADWAY, YONKERS, NY 10701***
***SUMMARY OF ASBESTOS SAMPLES AND ANALYSIS RESULTS***

| Homogeneous Area Number | Bulk Sample ID Number | Sampled Material (T, S, M) | Sample Location | Friability (N/F) | Condition (G, D, SD) | Quantity | Homogeneous Area | Asbestos Content (Type & %) |
|---|---|---|---|---|---|---|---|---|
| 013 | 04 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 013 | 05 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | N/A | N/A | NAD |
| 014 | 01 | Black Electrical Wire Insulation (M) | Lower Level – Mechanical Room 1 | N | G | N/A | N/A | NAD |
| 014 | 02 | Black Electrical Wire Insulation (M) | Lower Level – Mechanical Room 1 | N | G | N/A | N/A | NAD |
| 015 | 01 | White Electrical Wire Insulation (M) | Lower Level – Mechanical Room 1 | N | G | N/A | N/A | NAD |
| 015 | 02 | White Electrical Wire Insulation (M) | Lower Level – Mechanical Room 1 | N | G | N/A | N/A | NAD |
| 016 | 01 | Brick Wall (M) | Exterior | F | G | N/A | N/A | NAD |
| 016 | 02 | Brick Wall (M) | Exterior | F | G | N/A | N/A | NAD |
| 017 | 01 | Tan Adhesive on Stair Tread (M) | Exterior | N | G | N/A | N/A | NAD |
| 017 | 02 | Tan Adhesive on Stair Tread (M) | Exterior | N | G | N/A | N/A | NAD |
| 018 | 01 | Tan Concrete Step (M) | Exterior | F | G | N/A | N/A | NAD |
| 018 | 02 | Tan Concrete Step (M) | Exterior | F | G | N/A | N/A | NAD |
| 019 | 01 | Concrete Sidewalk (M) | Exterior | F | G | N/A | N/A | NAD |
| 019 | 02 | Concrete Sidewalk (M) | Exterior | F | G | N/A | N/A | NAD |
| 020 | 01 | Sidewalk Caulk (M) | Exterior | N | G | N/A | N/A | NAD |
| 020 | 02 | Sidewalk Caulk (M) | Exterior | N | G | N/A | N/A | NAD |
| 021 | 01 | Foundation Sealer (M) | Exterior | N | G | N/A | N/A | NAD |
| 021 | 02 | Foundation Sealer (M) | Exterior | N | G | N/A | N/A | NAD |

(T=TSI; S=Surfacing; M=Misc)

NAD = No asbestos detected

***BELL & SPINA ARCHITECTS***
***YONKERS ARMORY***
***127 N BROADWAY, YONKERS, NY 10701***
***SUMMARY OF ASBESTOS SAMPLES AND ANALYSIS RESULTS***

NA/PS = Not analyzed/positive stop

SF = Square Foot
LF = Linear Foot

* Quantities are estimates only and should be field verified.
* Quantities and homogenous locations only reflect renovation areas and do not represent other areas throughout the building.

*Note: Refer to Assumptions & Limitations Section of the Report.*

**AmeriSci New York**
117 EAST 30TH ST.
NEW YORK, NY 10016
TEL: (212) 679-8600 • FAX: (212) 679-3114

April 17, 2025

Ambient Environmental, Inc.
Attn: Joella Viscusi
828 Washington Avenue
Albany, NY 12203

RE: Ambient Environmental, Inc.
Job Number 225041730
P.O. #250204AA
250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

Dear Joella Viscusi:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Ambient Environmental, Inc. samples, received at AmeriSci on Wednesday, April 9, 2025, for a 5 day turnaround:

001-01, 001-02, 001-03, 002-01, 002-02, 003-01, 003-02, 003-03, 004-01, 004-02, 005-01, 005-02, 006-01, 006-02, 006-03, 007-01, 007-02, 008-01, 008-02, 009-01, 009-02, 010-01, 010-02, 010-03, 010-04, 010-05, 011-01, 011-02, 011-03, 012-01, 012-02, 012-03, 012-04, 012-05, 012-06, 012-07, 013-01, 013-02, 013-03, 013-04, 013-05, 014-01, 014-02, 015-01, 015-02, 016-01, 016-02, 017-01, 017-02, 018-01, 018-02, 019-01, 019-02, 020-01, 020-02, 021-01, 021-02

The 57 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex. Ambient Environmental, Inc. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed following ELAP Protocols 198.1 PLM Friable and/or 198.6 for PLM NOB. ELAP Protocol 198.4 TEM NOB guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction, combined PLM and TEM analysis results are listed in the Summary Bulk Asbestos Analysis Results in Table I. Complete PLM results for individual samples are presented in the PLM Bulk Asbestos Report. Samples near 1% asbestos may be analyzed by EPA 400 pt ct method (EPA 600-M4-82-020). This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. This report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Marvin E. Brothers

President | Authorized Signatory

**AmeriSci New York**
117 EAST 30TH ST.
NEW YORK, NY 10016
TEL: (212) 679-8600 • FAX: (212) 679-3114

# PLM Bulk Asbestos Report

Ambient Environmental, Inc.
Attn: Joella Viscusi
828 Washington Avenue

Albany, NY 12203

**Date Received** 4/9/2025 **AmeriSci Job #** 225041730
**Date Examined** 04/15/25 **P.O. #**
**ELAP #** 11480 **Page** 1 **of** 9

**RE:** 250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 001-01<br>001 | 225041730-01 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Conference Room 111 - Foil Faced Duct Insulation (T)<br>**Analyst Description:** Silver/Brown, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 50%, Fibrous glass 10%, Non-fibrous 40% | | | | |
| 001-02<br>001 | 225041730-02 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Conference Room 111 - Foil Faced Duct Insulation (T)<br>**Analyst Description:** Silver/Brown, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 50%, Fibrous glass 10%, Non-fibrous 40% | | | | |
| 001-03<br>001 | 225041730-03 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Conference Room 111 - Foil Faced Duct Insulation (T)<br>**Analyst Description:** Silver/Brown, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 50%, Fibrous glass 10%, Non-fibrous 40% | | | | |
| 002-01<br>002 | 225041730-04 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Room 118 - Gray Duct Sealer (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 3.2% | | | | |
| 002-02<br>002 | 225041730-05 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Room 118 - Gray Duct Sealer (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 3.3% | | | | |
| 003-01<br>003 | 225041730-06 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Room 116 - Foil Backed Heating Pipe Insulation (T)<br>**Analyst Description:** White/Silver, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 50%, Fibrous glass 10%, Non-fibrous 40% | | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 003-02<br>003 | 225041730-07 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Room 116 - Foil Backed Heating Pipe Insulation (T)<br>**Analyst Description:** White/Silver, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 50%, Fibrous glass 10%, Non-fibrous 40% | | | | |
| 003-03<br>003 | 225041730-08 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Room 116 - Foil Backed Heating Pipe Insulation (T)<br>**Analyst Description:** White/Silver, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 50%, Fibrous glass 10%, Non-fibrous 40% | | | | |
| 004-01<br>004 | 225041730-09 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Conference Room 111 - White Pipe Insulation Mastic (M)<br>**Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 22% | | | | |
| 004-02<br>004 | 225041730-10 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Conference Room 111 - White Pipe Insulation Mastic (M)<br>**Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 20% | | | | |
| 005-01<br>005 | 225041730-11 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Corridor - CMU Wall (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | | |
| 005-02<br>005 | 225041730-12 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Corridor - CMU Wall (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | | |
| 006-01<br>006 | 225041730-13 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Women's Latrine Room 134 - Red Epoxy Floor (S)<br>**Analyst Description:** Red, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 60% | | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 006-02<br>006 | 225041730-14 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Women's Latrine Room 134 - Red Epoxy Floor (S)<br>**Analyst Description:** Red, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 60% | | | | |
| 006-03<br>006 | 225041730-15 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Women's Latrine Room 134 - Red Epoxy Floor (S)<br>**Analyst Description:** Red, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 65% | | | | |
| 007-01<br>007 | 225041730-16 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Room 127 - White Expansion Joint Caulk (M)<br>**Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 3.5% | | | | |
| 007-02<br>007 | 225041730-17 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Room 127 - White Expansion Joint Caulk (M)<br>**Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.2% | | | | |
| 008-01<br>008 | 225041730-18 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Room 127 - White Caulk On Window Frame To CMU Wall (M)<br>**Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.1% | | | | |
| 008-02<br>008 | 225041730-19 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Upper Level - Room 127 - White Caulk On Window Frame To CMU Wall (M)<br>**Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 5.7% | | | | |
| 009-01<br>009 | 225041730-20 | ***Yes*** | 9.7%<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Upper Level - Room 127 - Black Window Glazing (M)<br>**Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:** Chrysotile 9.7%<br>**Other Material:** Non-fibrous 14% | | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 009-02<br>009<br>**Location:** Upper Level - Room 127 - Black Window Glazing (M)<br>**Analyst Description:** Bulk Material<br>**Asbestos Types:**<br>**Other Material:** | 225041730-21 | | NA/PS | |
| 010-01<br>010<br>**Location:** Upper Level - Room 127 - Beige Wall Paint (S)<br>**Analyst Description:** Tan, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 19% | 225041730-22 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 010-02<br>010<br>**Location:** Upper Level - Room 116 - Beige Wall Paint (S)<br>**Analyst Description:** Tan, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 18% | 225041730-23 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 010-03<br>010<br>**Location:** Upper Level - Room 116 - Beige Wall Paint (S)<br>**Analyst Description:** Tan, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 20% | 225041730-24 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 010-04<br>010<br>**Location:** Upper Level - Room 111 - Beige Wall Paint (S)<br>**Analyst Description:** Tan, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 19% | 225041730-25 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 010-05<br>010<br>**Location:** Upper Level - Room 111 - Beige Wall Paint (S)<br>**Analyst Description:** Tan, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 22% | 225041730-26 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 011-01<br>011<br>**Location:** Upper Level - Room 133 - Gray Floor Paint (S)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 11% | 225041730-27 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |

See Reporting notes on last page

# PLM Bulk Asbestos Report

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 011-02<br>011<br>**Location:** Upper Level - Room 133 - Gray Floor Paint (S)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 6.3% | 225041730-28 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 011-03<br>011<br>**Location:** Upper Level - Room 133 - Gray Floor Paint (S)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 16% | 225041730-29 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 012-01<br>012<br>**Location:** Lower Level - Assembly Hall 5 - Off-White Wall Paint (S)<br>**Analyst Description:** Off-White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 23% | 225041730-30 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 012-02<br>012<br>**Location:** Lower Level - Assembly Hall 5 - Off-White Wall Paint (S)<br>**Analyst Description:** Off-White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 25% | 225041730-31 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 012-03<br>012<br>**Location:** Lower Level - Assembly Hall 5 - Off-White Wall Paint (S)<br>**Analyst Description:** Off-White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 24% | 225041730-32 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 012-04<br>012<br>**Location:** Lower Level - Assembly Hall 5 - Off-White Wall Paint (S)<br>**Analyst Description:** Off-White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 27% | 225041730-33 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 012-05<br>012<br>**Location:** Lower Level - Assembly Hall 5 - Off-White Wall Paint (S)<br>**Analyst Description:** Off-White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 27% | 225041730-34 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |

See Reporting notes on last page

# PLM Bulk Asbestos Report

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 012-06<br>012<br>**Location:** Lower Level - Assembly Hall 5 - Off-White Wall Paint (S)<br>**Analyst Description:** Off-White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 25% | 225041730-35 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 012-07<br>012<br>**Location:** Lower Level - Assembly Hall 5 - Off-White Wall Paint (S)<br>**Analyst Description:** Off-White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 26% | 225041730-36 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 013-01<br>013<br>**Location:** Lower Level - Assembly Hall 5 - Yellow Wall Paint (S)<br>**Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 28% | 225041730-37 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 013-02<br>013<br>**Location:** Lower Level - Assembly Hall 5 - Yellow Wall Paint (S)<br>**Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 30% | 225041730-38 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 013-03<br>013<br>**Location:** Lower Level - Assembly Hall 5 - Yellow Wall Paint (S)<br>**Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 30% | 225041730-39 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 013-04<br>013<br>**Location:** Lower Level - Assembly Hall 5 - Yellow Wall Paint (S)<br>**Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 28% | 225041730-40 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 013-05<br>013<br>**Location:** Lower Level - Assembly Hall 5 - Yellow Wall Paint (S)<br>**Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 29% | 225041730-41 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |

See Reporting notes on last page

# PLM Bulk Asbestos Report

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 014-01<br>014 | 225041730-42 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Lower Level - Mechanical Room 1 - Black Electrical Wire Insulation (M)<br>**Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 5.1% | | | | |
| 014-02<br>014 | 225041730-43 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Lower Level - Mechanical Room 1 - Black Electrical Wire Insulation (M)<br>**Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 7.4% | | | | |
| 015-01<br>015 | 225041730-44 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Lower Level - Mechanical Room 1 - White Electrical Wire Insulation (M)<br>**Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 17% | | | | |
| 015-02<br>015 | 225041730-45 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Lower Level - Mechanical Room 1 - White Electrical Wire Insulation (M)<br>**Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 15% | | | | |
| 016-01<br>016 | 225041730-46 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Exterior - Brick Wall (M)<br>**Analyst Description:** Brown, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | | |
| 016-02<br>016 | 225041730-47 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| **Location:** Exterior - Brick Wall (M)<br>**Analyst Description:** Brown, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | | |
| 017-01<br>017 | 225041730-48 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| **Location:** Exterior - Tan Adhesive On Stair Tread (M)<br>**Analyst Description:** Tan, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 21% | | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 017-02<br>017<br>**Location:** Exterior - Tan Adhesive On Stair Tread (M)<br>**Analyst Description:** Tan, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 23% | 225041730-49 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 018-01<br>018<br>**Location:** Exterior - Tan Concrete Step (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | 225041730-50 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| 018-02<br>018<br>**Location:** Exterior - Tan Concrete Step (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | 225041730-51 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| 019-01<br>019<br>**Location:** Exterior - Concrete Sidewalk (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | 225041730-52 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| 019-02<br>019<br>**Location:** Exterior - Concrete Sidewalk (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | 225041730-53 | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by John P. Koubiadis<br>on 04/15/25 | |
| 020-01<br>020<br>**Location:** Exterior - Sidewalk Caulk (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.6% | 225041730-54 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 020-02<br>020<br>**Location:** Exterior - Sidewalk Caulk (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.6% | 225041730-55 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |

See Reporting notes on last page

# PLM Bulk Asbestos Report

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos | Notes |
|---|---|---|---|---|
| 021-01<br>021<br>**Location:** Exterior - Foundation Sealer (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 54% | 225041730-56 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |
| 021-02<br>021<br>**Location:** Exterior - Foundation Sealer (M)<br>**Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 58% | 225041730-57 | ***No*** | Inconclusive - NAD<br>(NOB by NYS ELAP 198.6)<br>by John P. Koubiadis<br>on 04/15/25 | *1* |

**Reporting Notes:**

(1) NAD results by NYS 198.6 are inconclusive and are not considered non-ACM

Analyzed by: John P. Koubiadis
Date: 4/15/2025

Reviewed by: Marwan A. Alahiri

*NAD/NSD =no asbestos detected; NA =not analyzed; NA/PS=not analyzed/positive stop, (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 Pol Scope, Microscope, Serial #: 223705, by Appd E to Subpt E, 40 CFR 763 quantified by either CVES or 400 pt ct as noted for each analysis (NVLAP 200546-0), ELAP PLM Method 198.1 for NY friable samples, which includes the identification and quantitation of vermiculite, or ELAP 198.6 for NOB samples, or EPA 400 pt ct by EPA 600-M4-82-020 (NY ELAP Lab 11480); Note:PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos-containing in NY State (also see EPA Advisory for floor tile, FR 59,146,38970,8/1/94) National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab.This PLM report relates ONLY to the items tested. RI Cert AAL-094, CT Cert PH-0186, Mass Cert AA000054, NJ Lab ID #NY031.

END OF REPORT

Client Name: Ambient Environmental, Inc.

# Table I

## Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| AmeriSci Sample # | Client Sample# | HG Area | NOB Sample Weight (gram) | NOB Heat Sensitive Organic % | NOB Acid Soluble Inorganic % | NOB Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 01 | 001-01 | 001 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Upper Level - Conference Room 111 - Foil Faced Duct Insulation (T) | | | | | | | | |
| 02 | 001-02 | 001 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Upper Level - Conference Room 111 - Foil Faced Duct Insulation (T) | | | | | | | | |
| 03 | 001-03 | 001 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Upper Level - Conference Room 111 - Foil Faced Duct Insulation (T) | | | | | | | | |
| 04 | 002-01 | 002 | 0.194 | 25.8 | 71.0 | 3.2 | NAD | NAD |
| Location: Upper Level - Room 118 - Gray Duct Sealer (M) | | | | | | | | |
| 05 | 002-02 | 002 | 0.261 | 26.1 | 70.7 | 3.3 | NAD | NAD |
| Location: Upper Level - Room 118 - Gray Duct Sealer (M) | | | | | | | | |
| 06 | 003-01 | 003 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Upper Level - Room 116 - Foil Backed Heating Pipe Insulation (T) | | | | | | | | |
| 07 | 003-02 | 003 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Upper Level - Room 116 - Foil Backed Heating Pipe Insulation (T) | | | | | | | | |
| 08 | 003-03 | 003 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Upper Level - Room 116 - Foil Backed Heating Pipe Insulation (T) | | | | | | | | |
| 09 | 004-01 | 004 | 0.133 | 37.4 | 40.5 | 22.2 | NAD | NAD |
| Location: Upper Level - Conference Room 111 - White Pipe Insulation Mastic (M) | | | | | | | | |
| 10 | 004-02 | 004 | 0.189 | 38.4 | 41.6 | 20.0 | NAD | NAD |
| Location: Upper Level - Conference Room 111 - White Pipe Insulation Mastic (M) | | | | | | | | |
| 11 | 005-01 | 005 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Upper Level - Corridor - CMU Wall (M) | | | | | | | | |
| 12 | 005-02 | 005 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Upper Level - Corridor - CMU Wall (M) | | | | | | | | |
| 13 | 006-01 | 006 | 0.248 | 22.9 | 16.7 | 60.4 | NAD | NAD |
| Location: Upper Level - Women's Latrine Room 134 - Red Epoxy Floor (S) | | | | | | | | |
| 14 | 006-02 | 006 | 0.252 | 22.1 | 17.3 | 60.6 | NAD | NAD |
| Location: Upper Level - Women's Latrine Room 134 - Red Epoxy Floor (S) | | | | | | | | |
| 15 | 006-03 | 006 | 0.303 | 20.5 | 13.9 | 65.7 | NAD | NAD |
| Location: Upper Level - Women's Latrine Room 134 - Red Epoxy Floor (S) | | | | | | | | |
| 16 | 007-01 | 007 | 0.268 | 29.8 | 66.7 | 3.5 | NAD | NAD |
| Location: Upper Level - Room 127 - White Expansion Joint Caulk (M) | | | | | | | | |

See Reporting notes on last page

## Table I
## Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| AmeriSci Sample # | Client Sample# | HG Area | NOB Sample Weight (gram) | NOB Heat Sensitive Organic % | NOB Acid Soluble Inorganic % | NOB Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 17 | 007-02 | 007 | 0.236 | 29.3 | 68.5 | 2.2 | NAD | NAD |
| Location: Upper Level - Room 127 - White Expansion Joint Caulk (M) | | | | | | | | |
| 18 | 008-01 | 008 | 0.208 | 28.7 | 71.1 | 0.1 | NAD | NAD |
| Location: Upper Level - Room 127 - White Caulk On Window Frame To CMU Wall (M) | | | | | | | | |
| 19 | 008-02 | 008 | 0.180 | 28.5 | 65.8 | 5.7 | NAD | NAD |
| Location: Upper Level - Room 127 - White Caulk On Window Frame To CMU Wall (M) | | | | | | | | |
| 20 | 009-01 | 009 | 0.182 | 41.2 | 34.6 | 14.5 | Chrysotile 9.7 | NA |
| Location: Upper Level - Room 127 - Black Window Glazing (M) | | | | | | | | |
| 21 | 009-02 | 009 | 0.189 | 41.7 | 35.3 | 22.9 | NA/PS | NA |
| Location: Upper Level - Room 127 - Black Window Glazing (M) | | | | | | | | |
| 22 | 010-01 | 010 | 0.054 | 27.4 | 53.6 | 19.0 | NAD | NAD |
| Location: Upper Level - Room 127 - Beige Wall Paint (S) | | | | | | | | |
| 23 | 010-02 | 010 | 0.090 | 28.7 | 52.5 | 18.7 | NAD | NAD |
| Location: Upper Level - Room 116 - Beige Wall Paint (S) | | | | | | | | |
| 24 | 010-03 | 010 | 0.082 | 26.9 | 52.8 | 20.3 | NAD | NAD |
| Location: Upper Level - Room 116 - Beige Wall Paint (S) | | | | | | | | |
| 25 | 010-04 | 010 | 0.071 | 31.0 | 49.7 | 19.3 | NAD | NAD |
| Location: Upper Level - Room 111 - Beige Wall Paint (S) | | | | | | | | |
| 26 | 010-05 | 010 | 0.065 | 23.9 | 53.2 | 22.8 | NAD | NAD |
| Location: Upper Level - Room 111 - Beige Wall Paint (S) | | | | | | | | |
| 27 | 011-01 | 011 | 0.051 | 66.7 | 22.2 | 11.2 | NAD | NAD |
| Location: Upper Level - Room 133 - Gray Floor Paint (S) | | | | | | | | |
| 28 | 011-02 | 011 | 0.087 | 82.4 | 11.3 | 6.3 | NAD | NAD |
| Location: Upper Level - Room 133 - Gray Floor Paint (S) | | | | | | | | |
| 29 | 011-03 | 011 | 0.062 | 57.7 | 25.3 | 16.9 | NAD | NAD |
| Location: Upper Level - Room 133 - Gray Floor Paint (S) | | | | | | | | |
| 30 | 012-01 | 012 | 0.141 | 30.0 | 46.8 | 23.3 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Off-White Wall Paint (S) | | | | | | | | |
| 31 | 012-02 | 012 | 0.206 | 28.5 | 46.1 | 25.4 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Off-White Wall Paint (S) | | | | | | | | |
| 32 | 012-03 | 012 | 0.132 | 27.8 | 47.2 | 24.9 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Off-White Wall Paint (S) | | | | | | | | |

See Reporting notes on last page

## Table I
## Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| AmeriSci Sample # | Client Sample# | HG Area | NOB Sample Weight (gram) | NOB Heat Sensitive Organic % | NOB Acid Soluble Inorganic % | NOB Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 33 | 012-04 | 012 | 0.123 | 26.3 | 46.0 | 27.7 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Off-White Wall Paint (S) | | | | | | | | |
| 34 | 012-05 | 012 | 0.218 | 29.2 | 43.2 | 27.6 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Off-White Wall Paint (S) | | | | | | | | |
| 35 | 012-06 | 012 | 0.238 | 29.0 | 45.3 | 25.8 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Off-White Wall Paint (S) | | | | | | | | |
| 36 | 012-07 | 012 | 0.220 | 29.7 | 44.0 | 26.3 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Off-White Wall Paint (S) | | | | | | | | |
| 37 | 013-01 | 013 | 0.282 | 35.2 | 36.2 | 28.6 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Yellow Wall Paint (S) | | | | | | | | |
| 38 | 013-02 | 013 | 0.338 | 33.9 | 35.2 | 30.9 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Yellow Wall Paint (S) | | | | | | | | |
| 39 | 013-03 | 013 | 0.302 | 34.5 | 35.0 | 30.5 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Yellow Wall Paint (S) | | | | | | | | |
| 40 | 013-04 | 013 | 0.241 | 31.8 | 40.2 | 28.0 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Yellow Wall Paint (S) | | | | | | | | |
| 41 | 013-05 | 013 | 0.208 | 8.5 | 61.7 | 29.8 | NAD | NAD |
| Location: Lower Level - Assembly Hall 5 - Yellow Wall Paint (S) | | | | | | | | |
| 42 | 014-01 | 014 | 0.168 | 86.9 | 8.0 | 5.1 | NAD | NAD |
| Location: Lower Level - Mechanical Room 1 - Black Electrical Wire Insulation (M) | | | | | | | | |
| 43 | 014-02 | 014 | 0.184 | 86.7 | 5.9 | 7.4 | NAD | NAD |
| Location: Lower Level - Mechanical Room 1 - Black Electrical Wire Insulation (M) | | | | | | | | |
| 44 | 015-01 | 015 | 0.183 | 75.9 | 7.0 | 17.0 | NAD | NAD |
| Location: Lower Level - Mechanical Room 1 - White Electrical Wire Insulation (M) | | | | | | | | |
| 45 | 015-02 | 015 | 0.173 | 76.1 | 8.9 | 15.1 | NAD | NAD |
| Location: Lower Level - Mechanical Room 1 - White Electrical Wire Insulation (M) | | | | | | | | |
| 46 | 016-01 | 016 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Exterior - Brick Wall (M) | | | | | | | | |
| 47 | 016-02 | 016 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Exterior - Brick Wall (M) | | | | | | | | |
| 48 | 017-01 | 017 | 0.251 | 63.3 | 15.3 | 21.4 | NAD | NAD |
| Location: Exterior - Tan Adhesive On Stair Tread (M) | | | | | | | | |

See Reporting notes on last page

# Table I
## Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

250204AA; Bell & Spina Architects; Inspection Yonkers Armory, 127 N. Broadway, Yonkers, NY 10701, Yonkers Armory - Interior & Exterior

| AmeriSci Sample # | Client Sample# | HG Area | NOB Sample Weight (gram) | NOB Heat Sensitive Organic % | NOB Acid Soluble Inorganic % | NOB Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 49 | 017-02 | 017 | 0.229 | 63.5 | 13.2 | 23.2 | NAD | NAD |
| Location: Exterior - Tan Adhesive On Stair Tread (M) | | | | | | | | |
| 50 | 018-01 | 018 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Exterior - Tan Concrete Step (M) | | | | | | | | |
| 51 | 018-02 | 018 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Exterior - Tan Concrete Step (M) | | | | | | | | |
| 52 | 019-01 | 019 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Exterior - Concrete Sidewalk (M) | | | | | | | | |
| 53 | 019-02 | 019 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: Exterior - Concrete Sidewalk (M) | | | | | | | | |
| 54 | 020-01 | 020 | 0.282 | 35.6 | 63.8 | 0.6 | NAD | NAD |
| Location: Exterior - Sidewalk Caulk (M) | | | | | | | | |
| 55 | 020-02 | 020 | 0.198 | 35.1 | 64.4 | 0.6 | NAD | NAD |
| Location: Exterior - Sidewalk Caulk (M) | | | | | | | | |
| 56 | 021-01 | 021 | 0.189 | 16.5 | 29.3 | 54.2 | NAD | NAD |
| Location: Exterior - Foundation Sealer (M) | | | | | | | | |
| 57 | 021-02 | 021 | 0.169 | 10.8 | 30.7 | 58.5 | NAD | NAD |
| Location: Exterior - Foundation Sealer (M) | | | | | | | | |

Analyzed by: Marwan A. Alahiri
Date: 4/15/2025



Reviewed by: Marwan A. Alahiri



**Quantitative Analysis (Semi/Full); Bulk Asbestos Analysis - PLM by Appd E to Subpt E, 40 CFR 763 or NYSDOH ELAP 198.1 for New York friable samples or NYSDOH ELAP 198.6 for New York NOB samples; TEM (Semi/Full) by EPA 600/R-93/116 (or NYSDOH ELAP 198.4; for New York samples). Analysis using Hitachi, Model H600-Noran 7 System, Microscope, Serial #: 600-27-6. NAD = no asbestos detected during a quantitative analysis; NA = not analyzed; Trace = <1%; (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only; Qualitative Analysis: Asbestos analysis results of "Present" or "NVA = No Visible Asbestos" represents results for Qualitative PLM or TEM Analysis only (no accreditation coverage available from any regulatory agency for qualitative analyses): NVLAP (PLM) 200546-0, NYSDOH ELAP Lab 11480, NJ Lab ID #NY031.

Warning Note: PLM limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris for which PLM evaluation is recommended (i.e. soils and other heterogenous materials).

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#225041750

# BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

## PROJECT INFORMATION

| Client: | Project Name: | Project Street Address: | Client Contact: |
|---|---|---|---|
| Bell & Spina Architects | Inspection Yonkers Armory | 127 N. Broadway | James Paolini |
| **Project Number:** | **Inspector:** | **Project Address City/State:** | **Collection Date:** |
| 250204AA | Peter Minotti & Kevin Jones | Yonkers, NY 10701 | 4/7/2025 – 4/8/2025 |
| **Sample TAT:** | **Building Name:** | **Sampling Areas:** | **Comments: (Field)** |
| 5 Day | Yonkers Armory | Interior & Exterior | X Analyze to First Positive By Homogeneous Material<br>X For Negative NOB PLM's, continue to TEM |

## BULK SAMPLE LOCATION — TYPE OF MATERIALS

| Homogeneous Area Number | Bulk Sample ID Number | Sampled Material (T, S, M) | Sample Location | Friability (N/F) | Condition (G, D, SD) | Quantity (LF, SF, EA) | Homogeneous Areas | Asbestos Content (Type & %) |
|---|---|---|---|---|---|---|---|---|
| 001 | 01 | Foil Faced Duct Insulation (T) | Upper Level – Conference Room 111 | N | G | | | |
| 001 | 02 | Foil Faced Duct Insulation (T) | Upper Level – Conference Room 111 | N | G | | | |
| 001 | 03 | Foil Faced Duct Insulation (T) | Upper Level – Conference Room 111 | N | G | | | |
| 002 | 01 | Gray Duct Sealer (M) | Upper Level – Room 118 | N | G | | | |
| 002 | 02 | Gray Duct Sealer (M) | Upper Level – Room 118 | N | G | | | |
| 003 | 01 | Foil Backed Heating Pipe Insulation (T) | Upper Level – Room 116 | N | G | | | |
| 003 | 02 | Foil Backed Heating Pipe Insulation (T) | Upper Level – Room 116 | N | G | | | |
| 003 | 03 | Foil Backed Heating Pipe Insulation (T) | Upper Level – Room 116 | N | G | | | |
| 004 | 01 | White Pipe Insulation Mastic (M) | Upper Level – Conference Room 111 | N | G | | | |
| 004 | 02 | White Pipe Insulation Mastic (M) | Upper Level – Conference Room 111 | N | G | | | |
| 005 | 01 | CMU Wall (M) | Upper Level – Corridor | F | G | | | |
| 005 | 02 | CMU Wall (M) | Upper Level – Corridor | F | G | | | |
| 006 | 01 | Red Epoxy Floor (S) | Upper Level – Women's Latrine Room 134 | F | G | | | |
| 006 | 02 | Red Epoxy Floor (S) | Upper Level – Women's Latrine Room 134 | F | G | | | |

## CHAIN OF CUSTODY

| Relinquished By: | Date | Time | Received By: | Date | Time |
|---|---|---|---|---|---|
| I | 4/8/25 | 15:00 | | 4/9/25 | 11:11 |
| II | | | | | |

## LAB INFORMATION

| Lab Name | Date | Time |
|---|---|---|
| a. Analyzed By | 4/15/25 | 6:17 |
| b. QC by: | | |

| Project Manager: C.D. | Results To: Results@ambient-env.com | Drawings: ___ Sample Locations ___ Material Locations | Comments: |
|---|---|---|---|

(T=TSI; S=Surfacing; M=Misc)

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SBA EDWOSB & DBE



#250417 50

# BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

## PROJECT INFORMATION

| | | | |
|---|---|---|---|
| **Client:** Bell & Spina Architects | **Project Name:** Inspection Yonkers Armory | **Project Street Address:** 127 N. Broadway | **Client Contact:** James Paolini |
| **Project Number:** 250204AA | **Inspector:** Peter Minotti & Kevin Jones | **Project Address City/State:** Yonkers, NY 10701 | **Collection Date:** 4/7/2025 – 4/8/2025 |
| **Sample TAT:** 5 Day | **Building Name:** Yonkers Armory | **Sampling Areas:** Interior & Exterior | **Comments: (Field)** X Analyze to First Positive By Homogeneous Material; X For Negative NOB PLM's, continue to TEM |

## BULK SAMPLE LOCATION — TYPE OF MATERIALS

| Homogeneous Area Number | Bulk Sample ID Number | Sampled Material (T, S, M) | Sample Location | Friability (N/F) | Condition (G, D, SD) | Quantity (LF, SF, EA) | Homogeneous Areas | Asbestos Content (Type & %) |
|---|---|---|---|---|---|---|---|---|
| 006 | 03 | Red Epoxy Floor (S) | Upper Level – Women's Latrine Room 134 | F | G | | | |
| 007 | 01 | White Expansion Joint Caulk (M) | Upper Level – Room 127 | N | G | | | |
| 007 | 02 | White Expansion Joint Caulk (M) | Upper Level – Room 127 | N | G | | | |
| 008 | 01 | White Caulk on Window Frame to CMU Wall (M) | Upper Level – Room 127 | N | G | | | |
| 008 | 02 | White Caulk on Window Frame to CMU Wall (M) | Upper Level – Room 127 | N | G | | | |
| 009 | 01 | Black Window Glazing (M) | Upper Level – Room 127 | N | G | | | |
| 009 | 02 | Black Window Glazing (M) | Upper Level – Room 127 | N | G | | | |
| 010 | 01 | Beige Wall Paint (S) | Upper Level – Room 127 | N | G | | | |
| 010 | 02 | Beige Wall Paint (S) | Upper Level – Room 116 | N | G | | | |
| 010 | 03 | Beige Wall Paint (S) | Upper Level – Room 116 | N | G | | | |
| 010 | 04 | Beige Wall Paint (S) | Upper Level – Room 111 | N | G | | | |
| 010 | 05 | Beige Wall Paint (S) | Upper Level – Room 111 | N | G | | | |
| 011 | 01 | Gray Floor Paint (S) | Upper Level – Room 133 | N | G | | | |
| 011 | 02 | Gray Floor Paint (S) | Upper Level – Room 133 | N | G | | | |

## CHAIN OF CUSTODY

| Relinquished By: | Date | Time | Received By: | Date | Time |
|---|---|---|---|---|---|
| I | 4/8/25 | 15:00 | | 4/9/25 | 11:11 |
| II | | | | | |

## LAB INFORMATION

| Lab Name | Date | Time |
|---|---|---|
| a. Analyzed By: | 4/15/25 | 6:18 |
| b. QC by: | | |

| | | |
|---|---|---|
| **Project Manager:** C.D. | **Results To:** Results@ambient-env.com | **Drawings:** ___ Sample Locations ___ Material Locations |

**Comments:**

(T=TSI; S=Surfacing; M=Misc)

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SBA EDWOSB & DBE

#250417 50



# BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

## PROJECT INFORMATION

| Client: | Project Name: | Project Street Address: | Client Contact: |
|---|---|---|---|
| Bell & Spina Architects | Inspection Yonkers Armory | 127 N. Broadway | James Paolini |
| **Project Number:** | **Inspector:** | **Project Address City/State:** | **Collection Date:** |
| 250204AA | Peter Minotti & Kevin Jones | Yonkers, NY 10701 | 4/7/2025 – 4/8/2025 |
| **Sample TAT:** | **Building Name:** | **Sampling Areas:** | **Comments: (Field)** |
| 5 Day | Yonkers Armory | Interior & Exterior | X Analyze to First Positive By Homogeneous Material<br>X For Negative NOB PLM's, continue to TEM |

## BULK SAMPLE LOCATION — TYPE OF MATERIALS

| Homogeneous Area Number | Bulk Sample ID Number | Sampled Material (T, S, M) | Sample Location | Friability (N/F) | Condition (G, D, SD) | Quantity (LF, SF, EA) | Homogeneous Areas | Asbestos Content (Type & %) |
|---|---|---|---|---|---|---|---|---|
| 011 | 03 | Gray Floor Paint (S) | Upper Level – Room 133 | N | G | | | |
| 012 | 01 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 012 | 02 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 012 | 03 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 012 | 04 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 012 | 05 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 012 | 06 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 012 | 07 | Off-White Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 013 | 01 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 013 | 02 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 013 | 03 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 013 | 04 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 013 | 05 | Yellow Wall Paint (S) | Lower Level – Assembly Hall 5 | N | G | | | |
| 014 | 01 | Black Electrical Wire Insulation (M) | Lower Level – Mechanical Room 1 | N | G | | | |

## CHAIN OF CUSTODY

| Relinquished By: | Date | Time | Received By: | Date | Time |
|---|---|---|---|---|---|
| I Pat Minotti | 4/8/25 | 15:00 | [illegible] | 4/9/25 | 11:11 |
| II | | | | | |

## LAB INFORMATION

| Lab Name | Date | Time |
|---|---|---|
| a. Analyzed By: Mamun Mahin | 4/15/25 | 6:18 |
| b. QC by: | | |

| Project Manager: C.D. | Results To: Results@ambient-env.com | Drawings: ___ Sample Locations ___ Material Locations |
|---|---|---|

Comments:

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 #250417-00

# BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

## PROJECT INFORMATION

| | | | |
|---|---|---|---|
| Client: **Bell & Spina Architects** | Project Name: **Inspection Yonkers Armory** | Project Street Address: **127 N. Broadway** | Client Contact: **James Paolini** |
| Project Number: **250204AA** | Inspector: **Peter Minotti & Kevin Jones** | Project Address City/State: **Yonkers, NY 10701** | Collection Date: **4/7/2025 – 4/8/2025** |
| Sample TAT: **5 Day** | Building Name: **Yonkers Armory** | Sampling Areas: **Interior & Exterior** | Comments: (Field)<br>X Analyze to First Positive By Homogeneous Material<br>X For Negative NOB PLM's, continue to TEM |

## BULK SAMPLE LOCATION / TYPE OF MATERIALS

| Homogeneous Area Number | Bulk Sample ID Number | Sampled Material (T, S, M) | Sample Location | Friability (N/F) | Condition (G, D, SD) | Quantity (LF, SF, EA) | Homogeneous Areas | Asbestos Content (Type & %) |
|---|---|---|---|---|---|---|---|---|
| 014 | 02 | Black Electrical Wire Insulation (M) | Lower Level – Mechanical Room 1 | N | G | | | |
| 015 | 01 | White Electrical Wire Insulation (M) | Lower Level – Mechanical Room 1 | N | G | | | |
| 015 | 02 | White Electrical Wire Insulation (M) | Lower Level – Mechanical Room 1 | N | G | | | |
| 016 | 01 | Brick Wall (M) | Exterior | F | G | | | |
| 016 | 02 | Brick Wall (M) | Exterior | F | G | | | |
| 017 | 01 | Tan Adhesive on Stair Tread (M) | Exterior | N | G | | | |
| 017 | 02 | Tan Adhesive on Stair Tread (M) | Exterior | N | G | | | |
| 018 | 01 | Tan Concrete Step (M) | Exterior | F | G | | | |
| 018 | 02 | Tan Concrete Step (M) | Exterior | F | G | | | |
| 019 | 01 | Concrete Sidewalk (M) | Exterior | F | G | | | |
| 019 | 02 | Concrete Sidewalk (M) | Exterior | F | G | | | |
| 020 | 01 | Sidewalk Caulk (M) | Exterior | N | G | | | |
| 020 | 02 | Sidewalk Caulk (M) | Exterior | N | G | | | |
| 021 | 01 | Foundation Sealer (M) | Exterior | N | G | | | |

## CHAIN OF CUSTODY

| Relinquished By: | Date | Time | Received By: | Date | Time |
|---|---|---|---|---|---|
| I | 4/8/25 | 15:00 | | 4/9/25 | 11:11 |
| II | | | | | |

## LAB INFORMATION

| Lab Name | Date | Time |
|---|---|---|
| a. Analyzed By: | 4/15/25 | 6:18 |
| b. QC by: | | |

| | | | |
|---|---|---|---|
| Project Manager: **C.D.** | Results To: **Results@ambient-env.com** | Drawings: ___ Sample Locations ___ Material Locations | Comments: |

(T=TSI; S=Surfacing; M=Misc)

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#250417CD

# BULK SAMPLE DATA AND CHAIN OF CUSTODY FORM

## PROJECT INFORMATION

| | | | |
|---|---|---|---|
| Client: **Bell & Spina Architects** | Project Name: **Inspection Yonkers Armory** | Project Street Address: **127 N. Broadway** | Client Contact: **James Paolini** |
| Project Number: **250204AA** | Inspector: **Peter Minotti & Kevin Jones** | Project Address City/State: **Yonkers, NY 10701** | Collection Date: **4/7/2025 – 4/8/2025** |
| Sample TAT: **5 Day** | Building Name: **Yonkers Armory** | Sampling Areas: **Interior & Exterior** | Comments: (Field)<br>X Analyze to First Positive By Homogeneous Material<br>X For Negative NOB PLM's, continue to TEM |

## BULK SAMPLE LOCATION — TYPE OF MATERIALS

| Homogeneous Area Number | Bulk Sample ID Number | Sampled Material (T, S, M) | Sample Location | Friability (N/F) | Condition (G, D, SD) | Quantity (LF, SF, EA) | Homogeneous Areas | Asbestos Content (Type & %) |
|---|---|---|---|---|---|---|---|---|
| 021 | 02 | Foundation Sealer (M) | Exterior | N | G | | | |

## CHAIN OF CUSTODY

| Relinquished By: | Date | Time | Received By: | Date | Time |
|---|---|---|---|---|---|
| I | 4/8/25 | 15:00 | | 4/9/25 | 11:41 |
| II | | | | | |

| | | |
|---|---|---|
| Project Manager: **C.D.** | Results To: **Results@ambient-env.com** | Drawings: ___ Sample Locations ___ Material Locations |

(T=TSI; S=Surfacing; M=Misc)

## LAB INFORMATION

| Lab Name | Date | Time |
|---|---|---|
| a. Analyzed By: | 4/15/25 | 6:18 |
| b. QC by: | | |

Comments:

# ATTACHMENT B
# LEAD-BASED PAINT TESTING RESULTS

Ambient Environmental, Inc.
Building Science and EHS Solutions
NYS Certified WBE,
SBA EDWOSB & DBE

# Lead Based Paint Inspection Detailed Report

828 Washington Avenue
Albany, New York

| | |
|---|---|
| INSPECTION SITE: | Yonkers Armory<br>2 Quincy Place<br>Yonkers, New York |
| INSPECTION DATE: | 4/7/2025 - 4/7/2025 |
| REPORT NUMBER: | 250204AA |
| INSTRUMENT TYPE: | Viken Detection<br>Pb200i XRF Lead Paint Analyzer<br>2327 |
| ACTION LEVEL: | 1.0 (mg/cm²) |
| Job ID: | 250204AA |

STATEMENT: Paint conditions included in this report represent conditions observed by the inspector at the time of the inspection

# Lead Based Paint Inspection Detailed Report

| | | | |
|---|---|---|---|
| Inspection Date: | 4/7/2025 - 4/7/2025 | Inspection Site: | Yonkers Armory<br>2 Quincy Place<br>Yonkers, New York |
| Action Level: | 1.0 (mg/cm²) | | |
| Report Number: | 250204AA | | |
| Total Readings: | 62 | | |
| Unit Started: | 04/07/2025 17:02:47 | | |
| Unit Ended: | 04/07/2025 18:50:47 | | |

| Read # | Result | -->RoomChoice | Structure | -->Member | Substrate | Wall | Location | Color | Lead (mg/cm²) | Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | Negative | 1 | Room | Wall | Concrete | A | 1 | Beige | 0.3 mg/cm² | Action Level |
| 8 | Negative | 1 | Room | Wall | Concrete | A | 2 | Yellow | 0.4 mg/cm² | Action Level |
| 9 | Negative | 1 | Door | | Metal | A | 1 | Green | 0.2 mg/cm² | Action Level |
| 10 | Negative | 1 | Door | Frame | Metal | A | 1 | Black | 0.7 mg/cm² | Action Level |
| 11 | Negative | 1 | Door | Frame | Metal | B | 1 | Black | 0.7 mg/cm² | Action Level |
| 12 | Negative | 1 | Door | | Metal | B | 1 | Green | 0.2 mg/cm² | Action Level |
| 13 | Negative | 1 | Room | Wall | Concrete | B | 1 | Beige | 0.1 mg/cm² | Action Level |
| 14 | Negative | 1 | Room | Wall | Concrete | B | 2 | Yellow | 0.2 mg/cm² | Action Level |
| 15 | Negative | 1 | Room | Wall | Concrete | C | 1 | Beige | 0.0 mg/cm² | Action Level |
| 16 | Negative | 1 | Room | Wall | Concrete | C | 2 | Yellow | 0.2 mg/cm² | Action Level |
| 17 | Negative | 1 | Door | | Metal | C | 1 | Gray | 0.2 mg/cm² | Action Level |
| 18 | Negative | 1 | Door | Frame | Metal | C | 1 | Black | 0.4 mg/cm² | Action Level |
| 19 | Negative | 1 | Room | Wall | Concrete | C | 1 | Beige | 0.2 mg/cm² | Action Level |
| 20 | Negative | 1 | Room | Wall | Concrete | C | 2 | Yellow | 0.1 mg/cm² | Action Level |
| 21 | Negative | 1 | Room | Wall | Concrete | D | 1 | Beige | 0.1 mg/cm² | Action Level |
| 22 | Negative | 1 | Room | Wall | Concrete | D | 2 | Yellow | 0.3 mg/cm² | Action Level |
| 23 | Negative | 1 | Door | | Metal | D | 1 | Green | 0.1 mg/cm² | Action Level |
| 24 | Negative | 1 | Door | Frame | Metal | D | 1 | Black | 0.6 mg/cm² | Action Level |

# Lead Based Paint Inspection Detailed Report

Inspection Date: 4/7/2025 - 4/7/2025
Action Level: 1.0 (mg/cm²)
Report Number: 250204AA
Total Readings: 62
Unit Started: 04/07/2025 17:02:47
Unit Ended: 04/07/2025 18:50:47

Inspection Site: Yonkers Armory
2 Quincy Place
Yonkers, New York

| Read # | Result | -->RoomChoice | Structure | -->Member | Substrate | Wall | Location | Color | Lead (mg/cm²) | Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | Negative | 2 | Room | Wall | Concrete | A | 1 | Beige | 0.4 mg/cm² | Action Level |
| 26 | Negative | 2 | Room | Wall | Concrete | A | 2 | Yellow | 0.1 mg/cm² | Action Level |
| 27 | Negative | 2 | Room | Wall | Concrete | C | 1 | Beige | 0.3 mg/cm² | Action Level |
| 28 | Negative | 2 | Room | Wall | Concrete | C | 2 | Yellow | 0.2 mg/cm² | Action Level |
| 29 | Negative | 2 | Door | | Metal | D | 1 | Red | 0.2 mg/cm² | Action Level |
| 30 | Negative | 2 | Door | Frame | Metal | D | 1 | Black | 0.6 mg/cm² | Action Level |
| 31 | Negative | 3 | Room | Wall | Concrete | A | 1 | Beige | 0.5 mg/cm² | Action Level |
| 32 | Negative | 3 | Room | Wall | Concrete | B | 1 | Beige | 0.1 mg/cm² | Action Level |
| 33 | Negative | 3 | Room | Wall | Concrete | C | 1 | Beige | 0.1 mg/cm² | Action Level |
| 34 | Negative | 3 | Room | Wall | Concrete | D | 1 | Beige | 0.0 mg/cm² | Action Level |
| 35 | Negative | 4 | Room | Wall | Concrete | A | 1 | Beige | 0.2 mg/cm² | Action Level |
| 36 | Negative | 4 | Room | Wall | Concrete | B | 1 | Beige | 0.1 mg/cm² | Action Level |
| 37 | Negative | 4 | Room | Wall | Concrete | C | 1 | Beige | 0.2 mg/cm² | Action Level |
| 38 | Negative | 4 | Room | Wall | Concrete | D | 1 | Beige | 0.2 mg/cm² | Action Level |
| 39 | Negative | 4 | Door | | Metal | D | 1 | Red | 0.1 mg/cm² | Action Level |
| 40 | Negative | 4 | Door | Frame | Metal | D | 1 | Black | 0.6 mg/cm² | Action Level |
| 41 | Negative | 4 | Room | Ceiling | Drywall | D | 1 | White | 0.1 mg/cm² | Action Level |
| 42 | Negative | 4 | Room | Floor | Concrete | D | 1 | Gray | 0.4 mg/cm² | Action Level |

# Lead Based Paint Inspection Detailed Report

| | | | |
|---|---|---|---|
| Inspection Date: | 4/7/2025 - 4/7/2025 | Inspection Site: | Yonkers Armory<br>2 Quincy Place<br>Yonkers, New York |
| Action Level: | 1.0 (mg/cm²) | | |
| Report Number: | 250204AA | | |
| Total Readings: | 62 | | |
| Unit Started: | 04/07/2025 17:02:47 | | |
| Unit Ended: | 04/07/2025 18:50:47 | | |

| Read # | Result | -->RoomChoice | Structure | -->Member | Substrate | Wall | Location | Color | Lead (mg/cm²) | Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| 43 | Negative | 5 | Room | Floor | Concrete | A | 1 | Tan | 0.4 mg/cm² | Action Level |
| 44 | Positive | 5 | Room | Wall | Ceramic | A | 1 | White | 1.8 mg/cm² | Action Level |
| 45 | Positive | 5 | Room | Wall | Ceramic | B | 1 | White | 2.0 mg/cm² | Action Level |
| 46 | Positive | 5 | Room | Wall | Ceramic | C | 1 | White | 1.9 mg/cm² | Action Level |
| 47 | Positive | 5 | Room | Wall | Ceramic | D | 1 | White | 1.9 mg/cm² | Action Level |
| 48 | Negative | 5 | Room | Ceiling | Drywall | D | 1 | Tan | 0.1 mg/cm² | Action Level |
| 49 | Negative | 6 | Room | Wall | Concrete | A | 1 | Beige | 0.3 mg/cm² | Action Level |
| 50 | Negative | 6 | Room | Wall | Concrete | B | 1 | Beige | 0.3 mg/cm² | Action Level |
| 51 | Negative | 6 | Room | Wall | Concrete | C | 1 | Beige | 0.3 mg/cm² | Action Level |
| 52 | Negative | 6 | Room | Wall | Concrete | D | 1 | Beige | 0.2 mg/cm² | Action Level |
| 53 | Negative | 6 | Room | Floor | Concrete | D | 1 | Tan | 0.5 mg/cm² | Action Level |
| 54 | Negative | 6 | Room | Ceiling | Drywall | D | 1 | Beige | 0.1 mg/cm² | Action Level |
| 55 | Negative | 6 | Bar Joist | | Metal | A | 1 | Red | 0.1 mg/cm² | Action Level |
| 56 | Negative | 7 | Room | Wall | Concrete | A | 1 | Beige | 0.3 mg/cm² | Action Level |
| 57 | Negative | 7 | Room | Wall | Concrete | B | 1 | Beige | 0.4 mg/cm² | Action Level |
| 58 | Negative | 7 | Room | Wall | Concrete | C | 1 | Beige | 0.2 mg/cm² | Action Level |
| 59 | Negative | 7 | Room | Wall | Concrete | D | 1 | Beige | 0.2 mg/cm² | Action Level |
| 60 | Negative | 8 Exterior | Door | | Metal | A | 1 | Green | 0.1 mg/cm² | Action Level |

# Lead Based Paint Inspection Detailed Report

Inspection Date: 4/7/2025 - 4/7/2025
Action Level: 1.0 (mg/cm²)
Report Number: 250204AA
Total Readings: 62
Unit Started: 04/07/2025 17:02:47
Unit Ended: 04/07/2025 18:50:47

Inspection Site: Yonkers Armory
2 Quincy Place
Yonkers, New York

| Read # | Result | -->RoomChoice | Structure | -->Member | Substrate | Wall | Location | Color | Lead (mg/cm²) | Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| 61 | Negative | 8 Exterior | Door | Frame | Metal | A | 1 | Green | 0.1 mg/cm² | Action Level |
| 62 | Negative | 8 Exterior | Window | Sash | Metal | A | 1 | Green | 0.2 mg/cm² | Action Level |
| 63 | Negative | 8 Exterior | Door | | Metal | B | 1 | Green | 0.1 mg/cm² | Action Level |
| 64 | Negative | 8 Exterior | Door | Frame | Metal | B | 1 | Green | 0.2 mg/cm² | Action Level |
| 65 | Negative | 8 Exterior | Door | Frame | Metal | C | 1 | Green | 0.6 mg/cm² | Action Level |
| 66 | Negative | 8 Exterior | Door | --- | Metal | C | 1 | Gray | 0.1 mg/cm² | Action Level |
| 67 | Negative | 8 Exterior | Door | --- | Metal | C | 2 | Green | 0.2 mg/cm² | Action Level |
| 68 | Negative | 8 Exterior | Door | Frame | Metal | C | 2 | Green | 0.5 mg/cm² | Action Level |

**------ END OF READINGS ------**

# ATTACHMENT C

## PCB RESULTS AND LABORATORY ANALYSIS REPORT WITH CHAIN OF CUSTODY DOCUMENTATION

***BELL & SPINA ARCHITECTS***
***YONKERS ARMORY***
***127 N BROADWAY, YONKERS, NY 10701***
***SUMMARY OF PCB SAMPLES AND ANALYSIS RESULTS***

| Material Description | Sample Number | Total PCB (PPM) | Sample Location |
|---|---|---|---|
| White Expansion Joint Caulk - | PCB-01 | <.729 | Room 127 |
| White Caulk | PCB-02 | <1.390 | Window Frame to CMU Wall - Room 127 |
| Black Window Glazing | PCB-03 | <10.900 | Room 127 |
| Gray Sidewalk Caulk | PCB-04 | <.477 | Exterior |

**Analysis Report**

# Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

**Customer:** Ambient Environmentals LLC. (3639)
**Address:** 828 Washington Ave
Albany, NY 12203-1622

**Attn:**

**Project:** Inspection Yonkers Armory
**Location:** 127 N. Broadway Yonkers, NY
**Number:** 250204AA

**Order #:** 615306

**Matrix** Bulk
**Received** 04/09/25
**Reported** 04/14/25

**PO Number:**

| Sample ID / Parameter | Cust. Sample ID / Method | Result | RL* | Units | Analysis Date | Analyst |
|---|---|---|---|---|---|---|
| **615306-001** | PCB-01 — White Exp Joint Caulk | | | | | |
| ***Semi-volatile Organic Compounds*** | | | | | | |
| Aroclor - 1016 | SW846 8082A / 3550C | **<663** | 663 | µg/kg | 04/11/25 | KM |
| Aroclor - 1221 | SW846 8082A / 3550C | **<663** | 663 | µg/kg | 04/11/25 | KM |
| Aroclor - 1232 | SW846 8082A / 3550C | **<663** | 663 | µg/kg | 04/11/25 | KM |
| Aroclor - 1242 | SW846 8082A / 3550C | **<663** | 663 | µg/kg | 04/11/25 | KM |
| Aroclor - 1248 | SW846 8082A / 3550C | **<663** | 663 | µg/kg | 04/11/25 | KM |
| Aroclor - 1254 | SW846 8082A / 3550C | **<729** | 729 | µg/kg | 04/11/25 | KM |
| Aroclor - 1260 | SW846 8082A / 3550C | **<663** | 663 | µg/kg | 04/11/25 | KM |
| Aroclor - 1262 | SW846 8082A / 3550C | **<663** | 663 | µg/kg | 04/11/25 | KM |
| Aroclor - 1268 | SW846 8082A / 3550C | **<663** | 663 | µg/kg | 04/11/25 | KM |
| **615306-002** | PCB-02 — White Caulk Window Frame | | | | | |
| ***Semi-volatile Organic Compounds*** | | | | | | |
| Aroclor - 1016 | SW846 8082A / 3550C | **<1260** | 1260 | µg/kg | 04/11/25 | KM |
| Aroclor - 1221 | SW846 8082A / 3550C | **<1260** | 1260 | µg/kg | 04/11/25 | KM |
| Aroclor - 1232 | SW846 8082A / 3550C | **<1260** | 1260 | µg/kg | 04/11/25 | KM |
| Aroclor - 1242 | SW846 8082A / 3550C | **<1260** | 1260 | µg/kg | 04/11/25 | KM |
| Aroclor - 1248 | SW846 8082A / 3550C | **<1260** | 1260 | µg/kg | 04/11/25 | KM |
| Aroclor - 1254 | SW846 8082A / 3550C | **<1390** | 1380 | µg/kg | 04/11/25 | KM |
| Aroclor - 1260 | SW846 8082A / 3550C | **<1260** | 1260 | µg/kg | 04/11/25 | KM |
| Aroclor - 1262 | SW846 8082A / 3550C | **<1260** | 1260 | µg/kg | 04/11/25 | KM |
| Aroclor - 1268 | SW846 8082A / 3550C | **<1260** | 1260 | µg/kg | 04/11/25 | KM |
| **615306-003** | PCB-03 — Black Window Glazing | | | | | |
| ***Semi-volatile Organic Compounds*** | | | | | | |
| Aroclor - 1016 | SW846 8082A / 3550C | **<9850** | 9850 | µg/kg | 04/11/25 | KM |
| Aroclor - 1221 | SW846 8082A / 3550C | **<9850** | 9850 | µg/kg | 04/11/25 | KM |
| Aroclor - 1232 | SW846 8082A / 3550C | **<9850** | 9850 | µg/kg | 04/11/25 | KM |
| Aroclor - 1242 | SW846 8082A / 3550C | **<9850** | 9850 | µg/kg | 04/11/25 | KM |

All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. Solid PPM = mg/kg | PPB = µg/kg and Water PPM = mg/L | PPB = µg/L. The test results apply to the sample as received.

**Analysis Report**

# Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

**Customer:** Ambient Environmentals LLC. (3639)
**Address:** 828 Washington Ave
Albany, NY 12203-1622

**Attn:**

**Project:** Inspection Yonkers Armory
**Location:** 127 N. Broadway Yonkers, NY
**Number:** 250204AA

**Order #:** 615306

**Matrix** Bulk
**Received** 04/09/25
**Reported** 04/14/25

**PO Number:**

| Sample ID / Parameter | Cust. Sample ID / Method | Location / Result | RL* | Units | Analysis Date | Analyst |
|---|---|---|---|---|---|---|
| **615306-003** | PCB-03 | Black Window Glazing | | | | |
| Aroclor - 1248 | SW846 8082A / 3550C | **<9850** | 9850 | µg/kg | 04/11/25 | KM |
| Aroclor - 1254 | SW846 8082A / 3550C | **<10900** | 10800 | µg/kg | 04/11/25 | KM |
| Aroclor - 1260 | SW846 8082A / 3550C | **<9850** | 9850 | µg/kg | 04/11/25 | KM |
| Aroclor - 1262 | SW846 8082A / 3550C | **<9850** | 9850 | µg/kg | 04/11/25 | KM |
| Aroclor - 1268 | SW846 8082A / 3550C | **<9850** | 9850 | µg/kg | 04/11/25 | KM |
| **615306-004** | PCB-04 | Gray Sidewalk Caulk | | | | |
| ***Semi-volatile Organic Compounds*** | | | | | | |
| Aroclor - 1016 | SW846 8082A / 3550C | **<434** | 434 | µg/kg | 04/11/25 | KM |
| Aroclor - 1221 | SW846 8082A / 3550C | **<434** | 434 | µg/kg | 04/11/25 | KM |
| Aroclor - 1232 | SW846 8082A / 3550C | **<434** | 434 | µg/kg | 04/11/25 | KM |
| Aroclor - 1242 | SW846 8082A / 3550C | **<434** | 434 | µg/kg | 04/11/25 | KM |
| Aroclor - 1248 | SW846 8082A / 3550C | **<434** | 434 | µg/kg | 04/11/25 | KM |
| Aroclor - 1254 | SW846 8082A / 3550C | **<477** | 477 | µg/kg | 04/11/25 | KM |
| Aroclor - 1260 | SW846 8082A / 3550C | **<434** | 434 | µg/kg | 04/11/25 | KM |
| Aroclor - 1262 | SW846 8082A / 3550C | **<434** | 434 | µg/kg | 04/11/25 | KM |
| Aroclor - 1268 | SW846 8082A / 3550C | **<434** | 434 | µg/kg | 04/11/25 | KM |

All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. Solid PPM = mg/kg | PPB = µg/kg and Water PPM = mg/L | PPB = µg/L. The test results apply to the sample as received.

**Analysis Report**

# Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

**Customer:** Ambient Environmentals LLC. (3639)
**Address:** 828 Washington Ave
Albany, NY 12203-1622

**Attn:**

**Project:** Inspection Yonkers Armory
**Location:** 127 N. Broadway Yonkers, NY
**Number:** 250204AA

**Order #:** 615306

**Matrix** Bulk
**Received** 04/09/25
**Reported** 04/14/25

**PO Number:**

| Sample ID / Parameter | Cust. Sample ID / Method | Result | RL* | Units | Analysis Date | Analyst |
|---|---|---|---|---|---|---|

**615306-04/14/25 03:23 PM**

Kelly Muncy

Reviewed By: **Kelly Muncy**
Manager

## Surrogate Recoveries

| | |
|---|---|
| **615306-001 - PCB** | |
| DCB | 84% |
| TCMX | 153% |
| **615306-002 - PCB** | |
| DCB | 136% |
| TCMX | MI |
| **615306-003 - PCB** | |
| DCB | MI |
| TCMX | MI |
| **615306-004 - PCB** | |
| DCB | 98% |
| TCMX | 125% |

All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. Solid PPM = mg/kg | PPB = µg/kg and Water PPM = mg/L | PPB = µg/L. The test results apply to the sample as received.

**Analysis Report**

# Schneider Laboratories Global, Inc

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804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

**Customer:** Ambient Environmentals LLC. (3639)
**Address:** 828 Washington Ave
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**Attn:**

**Project:** Inspection Yonkers Armory
**Location:** 127 N. Broadway Yonkers, NY
**Number:** 250204AA

**Order #:** 615306

**Matrix** Bulk
**Received** 04/09/25
**Reported** 04/14/25

**PO Number:**

| Sample ID | Cust. Sample ID | Location | | | | | |
|---|---|---|---|---|---|---|---|
| Parameter | | Method | Result | RL* | Units | Analysis Date | Analyst |

## State Certifications

| Method | Parameter | New York | Virginia |
|---|---|---|---|
| SW846 8082A | Aroclor - 1016 | ELAP Certified | VELAP Certified |
| SW846 8082A | Aroclor - 1221 | ELAP Certified | VELAP Certified |
| SW846 8082A | Aroclor - 1232 | ELAP Certified | VELAP Certified |
| SW846 8082A | Aroclor - 1242 | ELAP Certified | VELAP Certified |
| SW846 8082A | Aroclor - 1248 | ELAP Certified | VELAP Certified |
| SW846 8082A | Aroclor - 1254 | ELAP Certified | VELAP Certified |
| SW846 8082A | Aroclor - 1260 | ELAP Certified | VELAP Certified |
| SW846 8082A | Aroclor - 1262 | ELAP Certified | VELAP Certified |
| SW846 8082A | Aroclor - 1268 | ELAP Certified | VELAP Certified |

| State | Certificate Number |
|---|---|
| New York | ELAP 69247 |
| Virginia | VELAP 12761 |

All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. Solid PPM = mg/kg | PPB = µg/kg and Water PPM = mg/L | PPB = µg/L. The test results apply to the sample as received.

**SCHNEIDER LABORATORIES GLOBAL, INC.**
2512 West Cary Street, Richmond, Virginia 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
www.slabinc.com • info@slabinc.com

# 615306

V:\615\615306

aelnasseh 4/9/2025 10:14:04 AM
Federal Express 818593510503

| | | | | | |
|---|---|---|---|---|---|
| **Submitting Co.** | Ambient Environmental, Inc. | **State of Collection** | NY | **Cert. Required** | ☐ YES ☐ NO |
| 828 Washington Avenue | | **Acct #** | 3639 | **Phone** | 518-482-0704 |
| Albany, New York 12203 | | **Email** | Results@ambient-env.com | | |
| **Project Name** | Inspection Yonkers Armory | **PO #** | | | |
| **Project Location** | 127 N. Broadway, Yonkers, NY 10701 | **Special Instructions** | | | |
| **Project Number** | 250204AA | | | | |
| **Collected By** | Peter Minotti & Kevin Jones | | | | |

**Turn Around Time ****

- ☐ Same day *
- ☐ 1 business day
- ☐ 2 business days
- ☐ 3 business days
- ☒ 5 business days

* not available for all tests

** A job received past 3 PM will begin its TAT the next business day

Please schedule rush tests in advance

**Matrix**

- ☐ Paint
- ☒ Bulk
- ☐ Soil
- ☐ Wipe
- ☐ Ground Water
- ☐ Waste Water

**Test selection for all Samples listed below (Circle desired method)**

- ☐ VOC (8260/624) ☐ SVOC (8270/625)
- ☐ Pesticides (8081/608) ☐ Herbicides (8151)
- ☐ Chlordane (8081/608) ☐ Toxaphene (8081/608)
- ☒ PCB (8082) ☐ TPH-DRO (8015) ☐ TPH-GRO (8015)
- ☐ BTEX (8260/8021) ☐ MTBE (8260/8021) ☐ Naphthalene (8260/8270)

**TCLP**

- ☐ Volatiles
- ☐ Semi-Volatiles
- ☐ Herbicides
- ☐ Pesticides
- ☐ Full TCLP (10 Day)

**Miscellaneous**

- ☐ Chlorides (300/9056) ☐ Silica (7602)
- ☐ Sulfates (300/9056) ☐ PAH (8270/625)
- ☐ Oil and Grease (1664) ☐ TPH (EPA 418.1)

**Individual Sample Requests**

| Sample # | Date Sampled | Time Sampled | # of Containers | Sample Identification | Wipe Area |
|---|---|---|---|---|---|
| PCB-01 | 4/7/2025 | | | White Expansion Joint Caulk - Room 127 | |
| PCB-02 | 4/7/2025 | | | White Caulk Window Frame to CMU Wall - Room 127 | |
| PCB-03 | 4/7/2025 | | | Black Window Glazing - Room 127 | |
| PCB-04 | 4/7/2025 | | | Gray Sidewalk Caulk - Exterior | |
| | | | | | |
| | | | | | |
| | | | | | |
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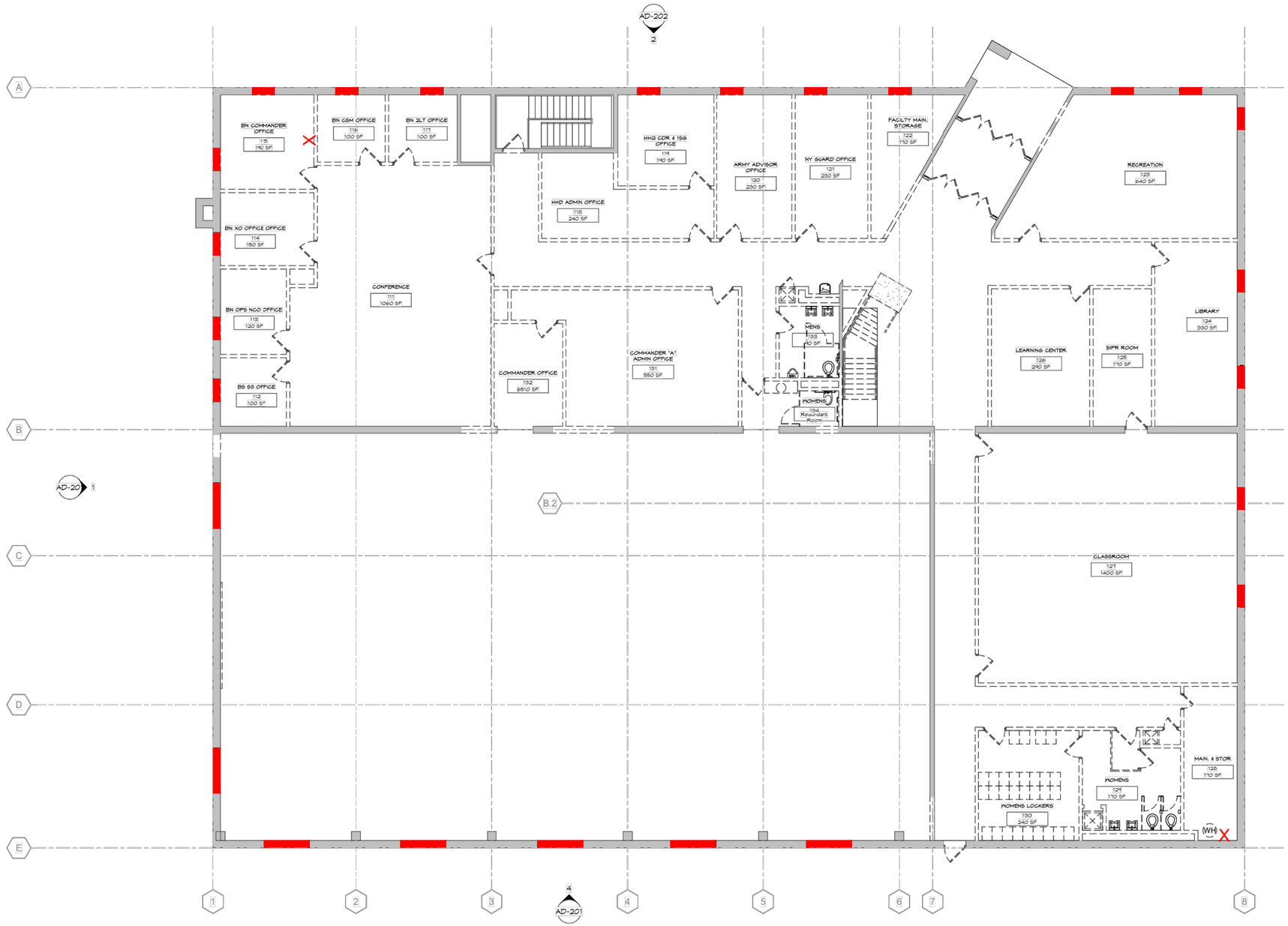
For Aqueous and Solid samples ensure enough sample is sent for duplicate and spike analyses

Relinquished By: Peter Minotti Signature: Peter Minotti Date/Time 4/8/25 15:00

**! ALL SHADED FIELDS MUST BE FILLED TO AVOID DELAYS !**

Chain-of-Custody documentation continued internally

# ATTACHMENT D
# HAZARDOUS MATERIAL LOCATION DRAWINGS




1 UPPER LEVEL REMOVALS PLAN

SCALE : 1/8" = 1'-0"

*PLEASE REFER TO THE ASSUMPTIONS AND LIMITATIONS SECTION OF REPORT


Ambient Environmental, Inc.
Building Science and EHS Solutions
828 Washington Avenue, Albany, NY 12203
PH: 518.482.0704 FAX:518.482.0750
www.ambient-env.com


## LEGEND

- (009-01) BLACK WINDOW GLAZING
- X VERMICULITE PROBE LOCATION

**REVISIONS**

| | | |
|---|---|---|
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**PROJECT LOCATION**

NY NATIONAL GUARD ARMORY
2 QUINCY PLACE
YONKERS, NEW YORK

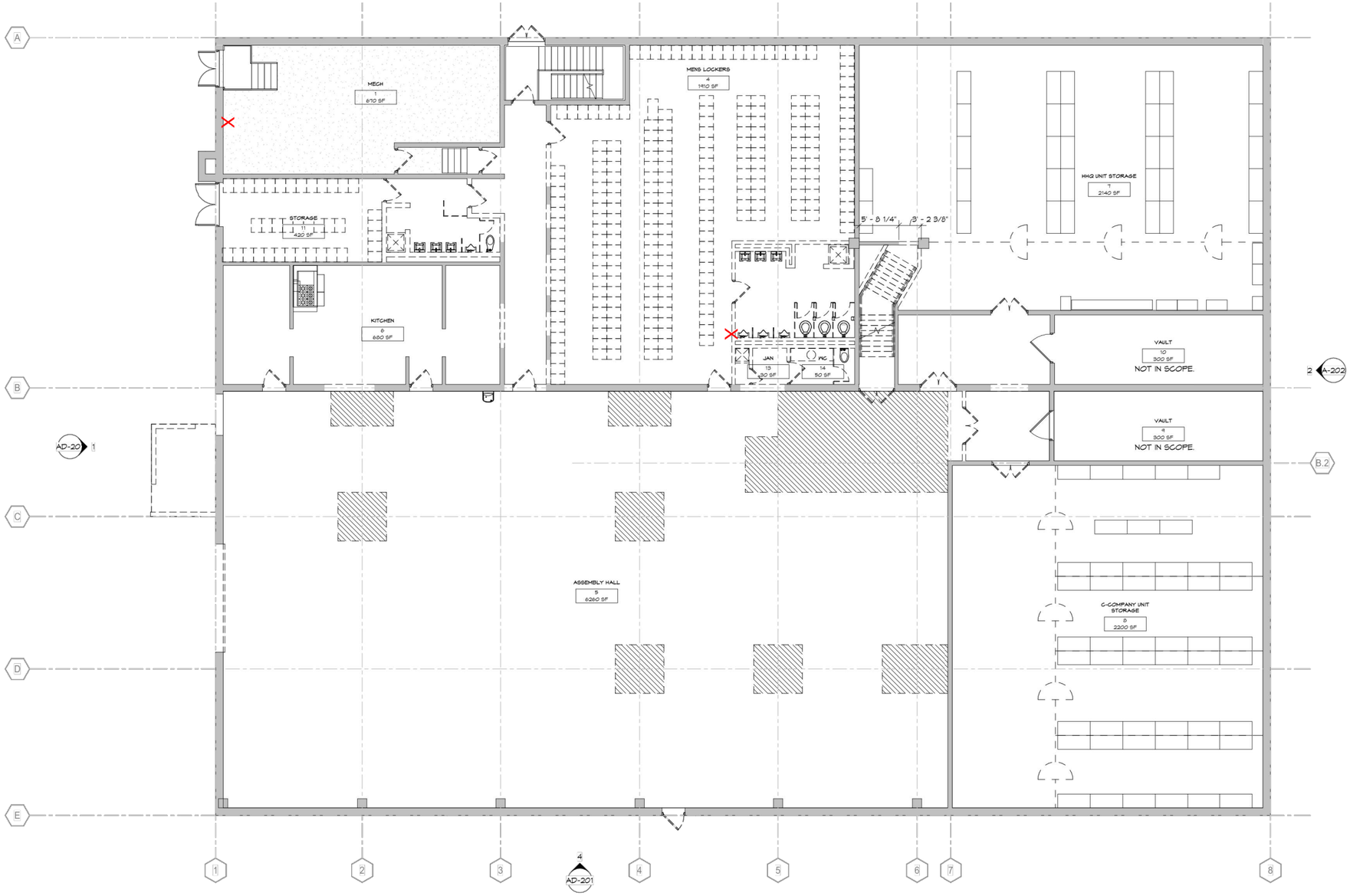
**DRAWING TITLE**

UPPER LEVEL MATERIALS LOCATION PLAN

| | |
|---|---|
| DATE: 4/16/2025 | SCALE: NTS |
| PROJECT NO. | 250204AA |
| DRAWN BY | KAJ |
| CHECKED BY | CDW |

DWG. NO.

ASB-200




1 LOWER LEVEL REMOVALS PLAN
SCALE : 1/8" = 1'-0"

*PLEASE REFER TO THE ASSUMPTIONS AND LIMITATIONS SECTION OF REPORT


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Building Science and EHS Solutions
828 Washington Avenue, Albany, NY 12203
PH: 518.482.0704 FAX:518.482.0750
www.ambient-env.com


## LEGEND

X VERMICULITE PROBE LOCATION

| REVISIONS | | |
|---|---|---|
| | | |
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**PROJECT LOCATION**

NY NATIONAL GUARD
ARMORY
2 QUINCY PLACE
YONKERS, NEW YORK

**DRAWING TITLE**

LOWER LEVEL MATERIALS LOCATION PLAN

| | |
|---|---|
| DATE: 4/16/2025 | SCALE: NTS |
| PROJECT NO. | 250204AA |
| DRAWN BY | KAJ |
| CHECKED BY | CDW |

DWG. NO.
ASB-100

A

B

C

D




1 UPPER LEVEL REMOVALS PLAN

SCALE : 1/8" = 1'-0"

*PLEASE REFER TO THE ASSUMPTIONS AND LIMITATIONS SECTION OF REPORT


Ambient Environmental, Inc.
Building Science and EHS Solutions
828 Washington Avenue, Albany, NY 12203
PH: 518.482.0704 FAX:518.482.0750
www.ambient-env.com


LEGEND

X XRF ROOM NUMBER

X BUILDING SIDE

| REVISIONS | | |
|---|---|---|
| | | |
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| | | |
| | | |
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| | | |
| | | |
| | | |

PROJECT LOCATION

NY NATIONAL GUARD ARMORY
2 QUINCY PLACE
YONKERS, NEW YORK

DRAWING TITLE

UPPER LEVEL LEAD BASED PAINT ROOM LOCATION PLAN

| | |
|---|---|
| DATE: 4/16/2025 | SCALE: NTS |
| PROJECT NO. | 250204AA |
| DRAWN BY | KAJ |
| CHECKED BY | CDW |

DWG. NO.

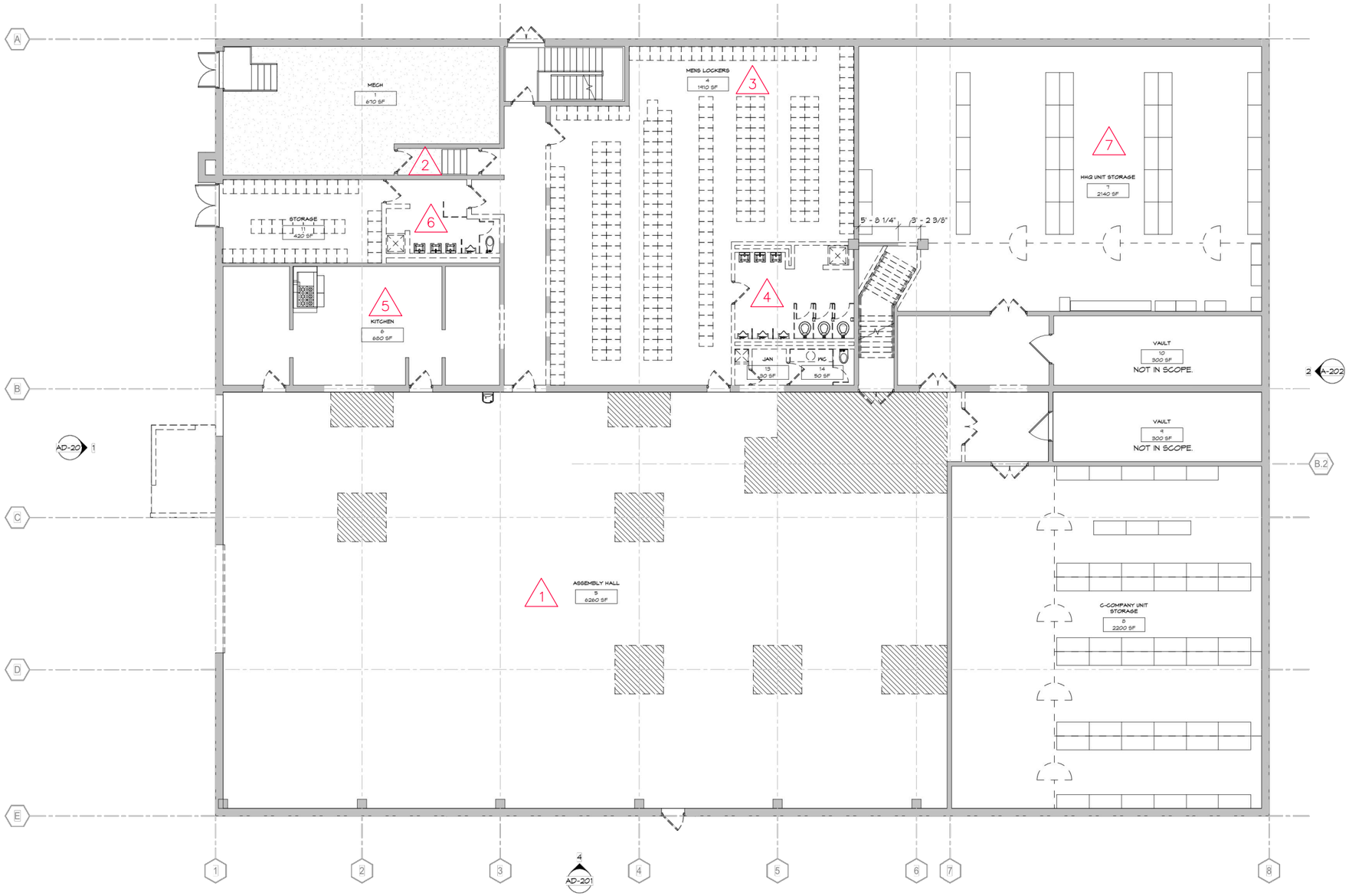
PB-200

A

B

C

D




1 LOWER LEVEL REMOVALS PLAN
SCALE : 1/8" = 1'-0"

*PLEASE REFER TO THE ASSUMPTIONS AND LIMITATIONS SECTION OF REPORT


Ambient Environmental, Inc.
Building Science and EHS Solutions
828 Washington Avenue, Albany, NY 12203
PH: 518.482.0704 FAX:518.482.0750
www.ambient-env.com


LEGEND

X XRF ROOM NUMBER

X BUILDING SIDE

| REVISIONS | | |
|---|---|---|
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PROJECT LOCATION

NY NATIONAL GUARD
ARMORY
2 QUINCY PLACE
YONKERS, NEW YORK

DRAWING TITLE

LOWER LEVEL LEAD BASED PAINT ROOM LOCATION PLAN

| | |
|---|---|
| DATE: 4/16/2025 | SCALE: NTS |
| PROJECT NO. | 250204AA |
| DRAWN BY | KAJ |
| CHECKED BY | CDW |

DWG. NO.

PB-100

# ATTACHMENT E
# PHOTOGRAPHIC DOCUMENTATION

Ambient Environmental, Inc.
Building Science and EHS Solutions
NYS Certified WBE,
SBA EDWOSB & DBE

# PHOTO LOG

**Ambient Project #250204AA**
**Hazmat Inspection**
**NY National Guard Armory**
**2 Quincy Place, Yonkers, NY**
**December 27, 2019**



Photograph 1 – 009-01 Black Window Glazing

# ATTACHMENT F

## COMPANY, INSPECTOR AND LABORATORY ACCREDITATION AND LICENSES

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

# ASBESTOS HANDLING LICENSE

Ambient Environmental, Inc.
828 Washington Avenue, Albany, NY, 12203

License Number: 29608
License Class: RESTRICTED
Date of Issue: 06/17/2024
Expiration Date: 07/31/2025
Duly Authorized Representative: Joella Viscusi

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.



Amy Phillips, Director
For the Commissioner of Labor

# United States Environmental Protection Agency

## This is to certify that

Ambient Environmental, Inc.

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires May 12, 2026

LBP-16658-3

Certification #

December 12, 2022

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

# NEW YORK STATE

## MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISE ("MWBE")

## CERTIFICATION

Empire State Development's Division of Minority and Women's Business Development grants a

## Women Business Enterprise (WBE)

pursuant to New York State Executive Law, Article 15-A to:

## Ambient Environmental, Inc.

**Certification Awarded on:** January 30, 2020
**Expiration Date:** January 30, 2025
**File ID#:** 50943

NEW YORK STATE OF OPPORTUNITY. Division of Minority and Women's Business Development

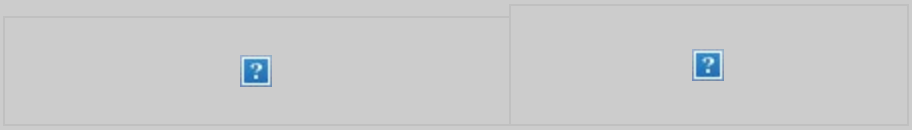
A Division of Empire State Development

**From:** Joella Viscusi
**To:** Michelle Bissonette
**Cc:** Christina Agans
**Subject:** RE: NYS: Application Review In Process
**Date:** Friday, January 10, 2025 9:32:33 AM
**Attachments:** image002.jpg
image003.jpg
image004.jpg

---

Thank you Michelle, please print this out and keep it in case we need to send to clients to prove we are still certified while we wait. Thank you.

Joella Viscusi
President
828 Washington Ave.
Albany, NY 12203
Ph. 518-482-0704 | Cell 518-859-5924
joellav@ambient-env.com

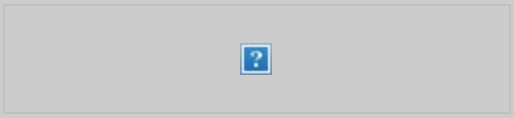


---

**From:** Michelle Bissonette <michelleb@ambient-env.com>
**Sent:** Friday, January 10, 2025 9:10 AM
**To:** New York State Contract System <ny@newnycontracts.com>
**Subject:** RE: NYS: Application Review In Process

Good morning;
Thank you so very much for the clarification. Have a great rest of your day.

*Michelle*



Michelle Bissonette
Finance Director
Ambient Environmental, Inc
828 Washington Avenue
Albany, NY 12203
518.482.0704
michelleb@ambient-env.com

www.ambient-env.com

**From:** New York State Contract System <ny@newnycontracts.com>
**Sent:** Friday, January 10, 2025 9:09 AM
**To:** Michelle Bissonette <michelleb@ambient-env.com>
**Subject:** RE: NYS: Application Review In Process



**RE: NYS: Application Review In Process**

Good morning,

Your recertification application is under review with an analyst. Your certification will remain in effect.

Thank you for contacting us,
Olga Candelaria

> Good afternoon;
> I do have one question relating to the review
> process timing and the expiration of our WBE
> Certification.
> Is our certification still in effect during the
> review process time period, if that time is beyond
> 1/30/2025 (our certification expiration date)?
>
> Thank you
>
> Michelle
>
> [AmbientLogo2018]
>
>
> Michelle Bissonette
> Finance Director
> Ambient Environmental, Inc
> 828 Washington Avenue
> Albany, NY 12203
> 518.482.0704
> michelleb@ambient-env.com
> www.ambient-env.com
>
>
> From: New York State Contract System
>
> Sent: Monday, January 6, 2025 10:47 AM

> To: Michelle Bissonette
>
> Subject: NYS: Application Review In Process
>
> [Image removed by
> sender.]
> Certification Application Review In Process
>
> Applicant: Ambient Environmental, Inc.
> Certifying Agency: New York State
> Application Type: Recertification Application
> (NEW)
> Application Number: 4247524
> Contact: Michelle Bissonette
> Date Submitted: 1/3/2025
> Date Received: 1/6/2025
>
> Dear Michelle Bissonette,
>
> Your application received on 1/6/2025 has been
> assigned to a certification analyst and our review of your
> application will be completed in the next 90 to 120 days.
> During this time, we may contact you with questions about
> your application and/or requests for additional
> information and supporting documentation. The certification
> analyst assigned to review your application may also be in
> contact with you to schedule an on-site visit at your
> principal place of business, if required. Your prompt and
> complete responses to any questions we may ask will result
> in the most expeditious completion of your
> application. Failure to adequately respond to our questions in
> a timely manner may result in a determination that
> you have abandoned your application, which would
> require you to reapply after 90 days.
>
> To view your application, visit:
> https://ny.newnycontracts.com/?GO=677
> If you have any questions, please email us at
> ny@newnycontracts.com.
>
> New York State Contract System
> Web: https://ny.newnycontracts.com/
> Email:
> ny@newnycontracts.com
>
> NYS M/WBE Program: http://www.esd.ny.gov/MWBE.html
> This message was sent to: "Michelle Bissonette"
> Sent on: 1/6/2025 9:47:00 AM
> System ReferenceID: 255700689
>

Customer Support
https://ny.newnycontracts.com/
New York State New York State Contract System

Ticket Number: 2860366
#%#2860366%$%

This message was sent to: michelleb@ambient-env.com
Sent on: 1/10/2025 8:09:01 AM
System ReferenceID: 256246335

# Certification: View

Help & Tools

Certification List | Add Date Alert

This record is from **New York State Department of Transportation**. It is not managed by New York State.

## Vendor Information

| | |
|---|---|
| BUSINESS NAME | **Ambient Environmental, Inc.** |
| SYSTEM VENDOR NUMBER | **20167029** |
| PRIMARY OWNER'S NAME | **Ms. Joella Viscusi** |
| ETHNIC GROUP | **Other Minority** |
| GENDER | **Female** |

## Certification Information

| | |
|---|---|
| CERTIFYING AGENCY | **New York State Department of Transportation** |
| CERTIFICATION TYPE | **DBE - Disadvantaged Business Enterprise** |
| EFFECTIVE DATE | **3/27/2013** |
| RENEWAL DATE | **3/27/2026** |

## Contact Information

| | |
|---|---|
| MAIN COMPANY EMAIL | **joellav@ambient-env.com** |
| MAIN PHONE | **518-482-0704** |
| MAIN FAX | **518-482-0750** |
| MAIN COMPANY WEBSITE | **http://www.ambient-env.com** |

## Addresses

| | |
|---|---|
| PHYSICAL ADDRESS | **828 Washington Ave.**<br>**Albany, NY 12203-1622 [map]** |
| MAILING ADDRESS | **828 Washington Ave.**<br>**Albany, NY 12203-1622 [map]** |

## Business Capabilities

| | | |
|---|---|---|
| BUSINESS CERTIFIED FOR | **Environmental Services.** | |
| FULL DESCRIPTION OF CAPABILITIES/PRODUCTS | **Environmental Services.** | |
| COMMODITY CODES | **NAICS 541620** | **Environmental consulting services** (More) |

## Owner Ethnicity and Gender

| | |
|---|---|
| ETHNIC GROUP | **Other Minority** |
| GENDER | **Female** |

## Location

| | |
|---|---|
| COUNTY | **Albany (NY)** |

Certification List

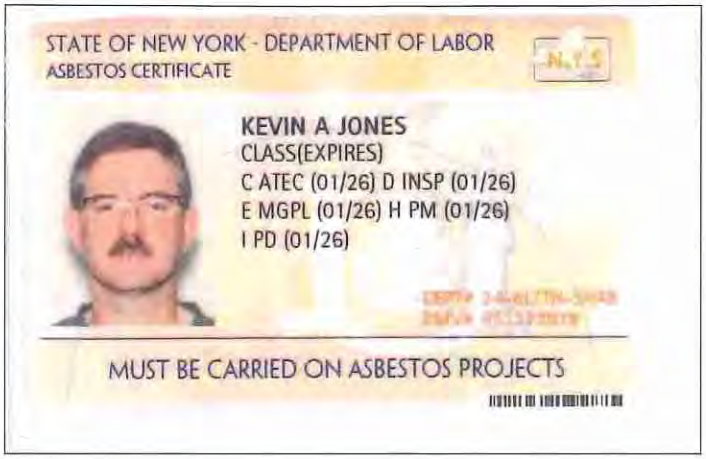
This profile was generated on 2/27/2025


Copyright © 2025 B2Gnow. All rights reserved.

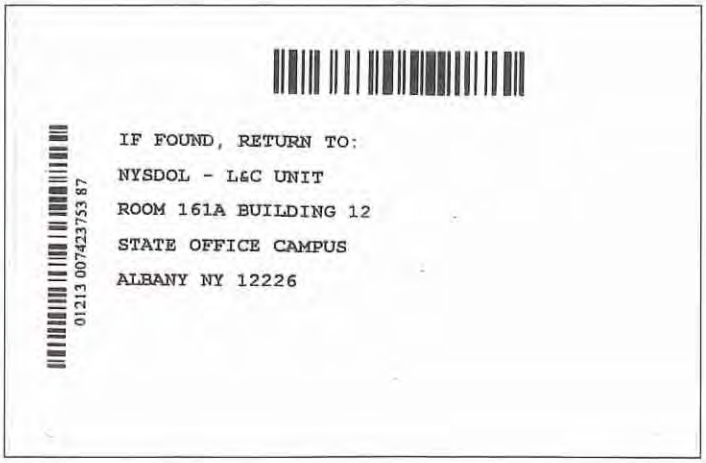
Ambient Environmental, Inc.
Building Science and EHS Solutions
NYS Certified WBE,
SBA EDWOSB & DBE

# AMBIENT ENVIRONMENTAL, INC.
## NEW YORK STATE DEPARTMENT OF LABOR
## ASBESTOS LICENSE

***Kevin Jones***
**Cert No. 24-6LTTH-SHAB**
Front of License




Back of License




**Codes:**

A- Asbestos Handler
B- Restricted Handler
C- Project Air Sampling Technician
D- Inspector – R III
E- Management Planner
F- Operations and Maintenance
G- Supervisor
H- Project Monitor
I- Project Designer
J- Allied Trades

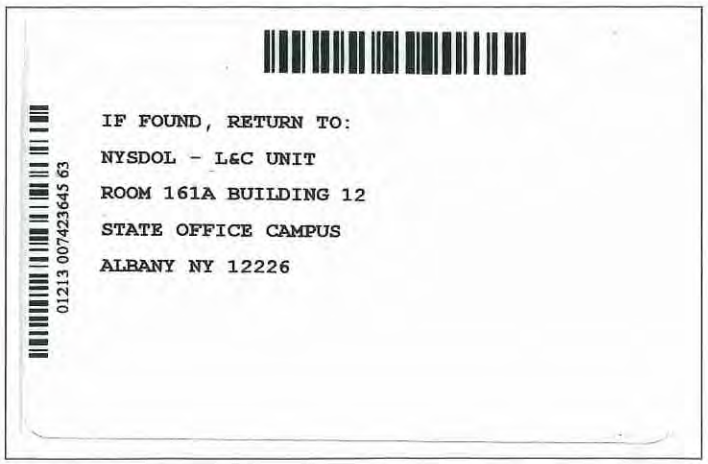
Ambient Environmental, Inc.
Building Science and EHS Solutions
NYS Certified WBE,
SBA EDWOSB & DBE

# AMBIENT ENVIRONMENTAL, INC.
## NEW YORK STATE DEPARTMENT OF LABOR
## ASBESTOS LICENSE

***Peter Minotti***
**Cert No. 2463H4K-SHAB**
Front of License




Back of License




**Codes:**

A- Asbestos Handler
B- Restricted Handler
C- Project Air Sampling Technician
D- Inspector – R III
E- Management Planner
F- Operations and Maintenance
G- Supervisor
H- Project Monitor
I- Project Designer
J- Allied Trades

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**

Expires 12:01 AM April 01, 2026
Issued April 01, 2025

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*MS. KAROL H. LU*
*AMERICA SCIENCE TEAM NEW YORK, INC*
*117 EAST 30TH ST*
*NEW YORK, NY 10016*

*NY Lab Id No: 11480*

*is hereby APPROVED as an Environmental Laboratory for the category*
*ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE*
*All approved subcategories and/or analytes are listed below:*

**Miscellaneous**

| | |
|---|---|
| Asbestos in Friable Material | Item 198.1 of Manual |
| | EPA 600/M4/82/020 |
| Asbestos in Non-Friable Material-PLM | Item 198.6 of Manual (NOB by PLM) |
| Asbestos in Non-Friable Material-TEM | Item 198.4 of Manual |

Serial No.: 70488

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**

Expires 12:01 AM April 01, 2026
Issued April 01, 2025

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*MR. FAYEZ ABOUZAKI*
*SCHNEIDER LABORATORIES GLOBAL, INC*
*2512 WEST CARY STREET*
*RICHMOND, VA 23220-5117*

*NY Lab Id No: 11413*

*is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER*
*All approved analytes are listed below:*

**Metals III**

| | |
|---|---|
| Cobalt, Total | EPA 6010D |
| Molybdenum, Total | EPA 6010D |
| Thallium, Total | EPA 6010D |
| Tin, Total | EPA 6010D |
| Titanium, Total | EPA 6010D |

**Nitroaromatics and Isophorone**

| | |
|---|---|
| 2,4-Dinitrotoluene | EPA 8270D |
| Nitrobenzene | EPA 8270D |

**Polychlorinated Biphenyls**

| | |
|---|---|
| Aroclor 1016 (PCB-1016) | EPA 8082A |
| Aroclor 1221 (PCB-1221) | EPA 8082A |
| Aroclor 1232 (PCB-1232) | EPA 8082A |
| Aroclor 1242 (PCB-1242) | EPA 8082A |
| Aroclor 1248 (PCB-1248) | EPA 8082A |
| Aroclor 1254 (PCB-1254) | EPA 8082A |
| Aroclor 1260 (PCB-1260) | EPA 8082A |
| Aroclor 1262 (PCB-1262) | EPA 8082A |
| Aroclor 1268 (PCB-1268) | EPA 8082A |

**Polynuclear Aromatics**

| | |
|---|---|
| Acenaphthene | EPA 8270D |
| Anthracene | EPA 8270D |
| Benzo(a)anthracene | EPA 8270D |
| Benzo(a)pyrene | EPA 8270D |
| Benzo(b)fluoranthene | EPA 8270D |
| Benzo(g,h,i)perylene | EPA 8270D |
| Benzo(k)fluoranthene | EPA 8270D |

Serial No.: 70458

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

# ATTACHMENT G

# HISTORICAL DOCUMENTATION

Adelaide
ENVIRONMENTAL HEALTH

1511 Route 22, Suite C24
Brewster, NY 10509 845.278.7710
90 State Street, Suite 700
Albany, NY 12207 518.874.0617
1967 Wehrle Drive, Suite One
Buffalo, NY 14221 716.402.4580
E-mail: adelaidemail@adelaidellc.com
Fax: 845.278.7750

# LIMITED SURVEY
# FOR
# ASBESTOS-CONTAINING MATERIALS, LEAD-BASED PAINT & PCBs

**PERFORMED AT:**

Yonkers Armory
2 Quincy Place
Yonkers, New York 10701
Adelaide Project# MACF:20060.00-IN
OGS Project# 46166

**PREPARED FOR:**

Mr. John Miranowski
McFarland-Johnson, Inc.
49 Court Street, P.O. Box 1980
Binghamton, New York 13901

**PREPARED BY:**
Philip J. Page
August 18, 2020

**REVIEWED BY:**



Stephanie A. Soter
President

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## 1.0 Introduction

### 1.1 Scope of Work / Project Personnel

Adelaide Environmental Health Associates, Inc. **(Adelaide)** performed an Asbestos, Lead and PCB Survey for Building/Structure Demolition, Renovation, Remodeling and/or Repair, in conformance with ALL Federal, State and Local regulations, on August 12, 2020 for McFarland-Johnson, Inc. The survey is related to New York State Office of General Services (OGS) project# 46166 to replace the boiler and HVAC equipment. The survey included a visual inspection/assessment for hazardous materials throughout accessible interior and/or exterior spaces of the building/structure or portion thereof identified to be demolished, renovated, remodeled or repaired. Certified **Adelaide** personnel (Appendix D), Philip J. Page (NYS Asbestos Inspector/Cert. #12-10888 and EPA Lead-based Paint Inspector/Cert. #LBP-I-I172697-1), performed the visual assessment throughout inspection area(s) identified.

### 1.2 Executive Summary

On August 12, 2020, **Adelaide** inspected the boiler room, gym, roof and various control valve locations throughout that will be affected by the proposed scope of work for suspect ACM, LBP and PCBs. **Adelaide** collected fourteen (14) suspect asbestos samples/layers, twenty three (23) XRF readings [calibrations included] and zero (0) suspect PCB samples from the above-mentioned area(s). Zero (0) samples/homogenous areas tested positive for asbestos and two (2) XRF readings tested positive for lead-based paint. No suspect PCB-containing materials were observed to be impacted by the above-mentioned scope of work.

#### 1.2.1 Conclusions and Recommendations

The following conclusions and recommendations are prepared by **Adelaide** as per the provided scope of work for Building/Structure Demolition, Renovation, Remodeling and/or Repair. Should the scope of work change, it is recommended that the findings be revisited to determine if additional sampling will be required to satisfy ALL Federal, State and Local regulations.

#### 1.2.2 Asbestos-containing Materials (ACM)

- This survey concluded that the materials listed in Section 2.2 tested ***negative for asbestos***.

#### 1.2.3 Lead-based Paint (LBP)

- This survey concluded that the materials listed in Section 2.3 tested ***positive for lead-based paint.***
- These areas must be either abated or Lead safe work practices must be implemented during the demolition, renovation, remodeling, or repair activities if these areas are to be disturbed.

#### 1.2.4 PolyChlorinated Biphenyls (PCB)

- This survey concluded that no suspect PCB-containing materials were observed to be impacted by the above-mentioned scope of work.

## 2.0 Summary of Hazardous Materials

### 2.1 Summary of Identified ACM/PACM

KEY: **ACM** = Materials containing greater than 1% of asbestos; **HA** = Homogeneous Area; **LF** = Linear Feet; **SF** = Square Feet; **PACM** = Presumed Asbestos-containing Materials; **Friable** = ACM capable of being released into air, and which can be crumbled, pulverized, powdered, crushed or exposed by hand-pressure.

Samples collected by **Adelaide** August 12, 2020

| HA | Identified ACM | ACM Location(s) | Approx. Qty. | Condition | Friable? (Yes or No) |
|---|---|---|---|---|---|
| *NO Asbestos-containing Materials (ACM) identified upon PLM, PLM-NOB, QTEM and/or PLM-SM-V analysis, by a laboratory approved under the NYSDOH ELAP, of samples collected/analyzed in reference to the above-mentioned scope of work.* | | | | | |

### 2.2 Summary of Identified Non-ACM

Samples collected by **Adelaide** August 12, 2020

| Identified Non-ACM | Sample Location(s) & HA's |
|---|---|
| Sheetrock & Joint Compound | Boiler Room Ceiling |
| Mudded Fittings | Boiler Room, Breeching |
| Tar (top layer) | Boiler Room, Boiler Sections |
| Rope Gasket (bottom layer) | |
| Canvas Wrap (ductwork) | Throughout |

### 2.3 Summary of Identified LBP

Based on review of the data generated by the Thermo Scientific Niton XLp 300A and/or Heuresis Corp. Pb200i Analyzer, the following surfaces tested were identified as lead-based, as defined by HUD/EPA (equal to or in excess of 1.0 milligram per square centimeter):

Readings collected by **Adelaide** August 12, 2020

| Location of LBP | LBP Component | Substrate | Color | Condition | Readings (mg/cm2) |
|---|---|---|---|---|---|
| Boiler Room | Orange Piping | Metal | Orange | Fair | *1.5 – 1.6* |

### 2.4 Summary of Identified PCB-containing Materials

Inspection performed by **Adelaide** August 12, 2020

| Sample # | Location / Description | Material Matrix | Color | Substrate | Analytical Result |
|---|---|---|---|---|---|
| *NO suspect PCB-containing materials were observed to be impacted by the above-mentioned scope of work.* | | | | | |

## 2.5 Observations

ASBESTOS-CONTAINING MATERIALS (ACM)
A visual inspection was performed and homogeneous material types were established based on appearance, color and texture. The findings presented in this report are based upon reasonably available information and observed site conditions at the time the assessment was performed. The findings and conclusions of this report are not meant to be indicative of future conditions at the site and does not warrant against conditions that were not evident from visual observations or historical information obtained from others.

Representative bulk sampling was performed on suspect building materials for laboratory analysis and the following is a summary of installed building materials sampled as per the scope of work provided:

- Ceiling Materials – Sheetrock, Joint Compound.
- Thermal System Insulation (TSI) – Mudded Fittings, Canvas Wrap over Fiberglass, Rope Gasket & Tar on Boiler.
- Non-suspect Materials (not sampled) – Fiberglass Insulation, Silicone, Wood, Glass, Metal.

## 3.0 Asbestos-containing Materials (ACM)

### 3.1 Field Procedures and Analysis Methodology

Guidelines used for the inspection were established by the U.S. Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, DOC# 560/5-85-024 and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA) and Title 12 NYCRR Part 56-5.1. Field information was organized as per the AHERA concept of a homogeneous area (HA); that is, suspect Asbestos-containing Materials (ACM) with similar age, appearance, and texture were grouped together, sampled and assessed for condition.

For the purposes of this inspection, suspect ACM has been placed in three material categories: thermal, surfacing, and miscellaneous. 1) Surfacing materials are those that are sprayed on, troweled on or otherwise applied to surfaces for fireproofing, acoustical, or decorative purposes (e.g., wall and ceiling plaster). 2) Thermal materials are those applied to heat pipes or other structural components to prevent heat loss or gain or prevent water condensation (e.g., pipe and fitting insulation, duct insulation, boiler flue). 3) Miscellaneous materials are interior building materials on structural components, structural members or fixtures, such as floor and ceiling tiles, etc. and do not include surfacing material or thermal system insulation.

SURFACING MATERIALS
Surfacing materials were grouped into homogeneous sampling areas. A homogeneous area contains material that is uniform in color and texture and appears identical in every other respect. Materials installed at different times belong to different sampling areas. Homogeneous areas were determined on per floor basis.

The following protocol was used for determining the number of samples to be collected:

- At least three bulk samples were collected from each homogeneous area that is 1,000 square feet or less.
- At least five bulk samples were collected from each homogeneous area that is greater than 1,000 square feet but less than or equal to 5,000 square feet.
- At least seven bulk samples were collected from each homogeneous area that is greater than 5,000 square feet.

THERMAL SYSTEM INSULATION (TSI)

The concept of homogeneous sampling areas applies equally well to thermal insulation as to surfacing material. A "typical" building may contain multiple insulated pipe runs from any combination of the following categories:

- Hot water supply and/or return
- Cold water supply
- Chilled water supply
- Steam supply and/or return
- Roof or system drain

The following protocol was used for determining the number of samples to be collected.

- Collect at least three bulk samples from each homogeneous area of thermal system insulation.
- Collect at least one bulk sample from each homogeneous area of patched thermal system insulation if the patched section is less than 6 linear or square feet.
- In a manner sufficient to determine whether the material is ACM or not ACM, collect a minimum of three bulk samples from each homogeneous insulated mechanical system tee, elbow, and valve.

Bulk samples are not collected from any homogeneous area where the certified inspector has determined that the thermal system insulation is fiberglass, foam glass, or rubber.

MISCELLANEOUS MATERIALS

Miscellaneous materials are grouped into different homogeneous areas and at least two bulk samples are collected from each homogeneous area as per the clarification letter from the EPA and the Professional Abatement Contractors of New York, Inc in November of 2007.

Samples collected were analyzed by a laboratory approved under the New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP). Samples were analyzed in the laboratory by Polarized Light Microscopy (PLM), Polarized Light Microscopy-NOB (PLM-NOB) and/or Quantitative Transmission Electron Microscopy (QTEM), as required. Sample collection and laboratory analysis were conducted in compliance with the requirements of Title 12 NYCRR Part 56-5.1, 29 CFR 1926.1101 and standard EPA & OSHA accepted methods. Samples consisting of multiple layers were separated and analyzed independently in the laboratory.

### 3.2 Regulatory Guidelines and Requirements for ACM

FEDERAL

In accordance with the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) established National Emission Standards for hazardous Air Pollutants (NESHAP) to protect the public from exposure to airborne pollutants. Asbestos was one of the air pollutants, which was addressed under the NESHAP 40 CFR Part 61. The purpose of asbestos NESHAP regulations is to protect the public health by minimizing the release of asbestos when facilities, which contain ACM, are being renovated or demolished. EPA is responsible for enforcing regulations related to asbestos during renovations and demolition, however, the CAA allows the EPA to delegate this authority to State and Local Agencies. Even after EPA delegate's responsibility to a state or Local agency, EPA retains the authority to oversee agency performance and to enforce NESHAP regulations as appropriate.

NEW YORK STATE

Asbestos in New York State is regulated under the Labor Law Section 906, Part 56 of Title 12 of the Official Compilation of Codes, Rules, and Regulations. Within the department and for the purpose of the Department of Labor, this part (rule) is known as Industrial Code Rule No. 56 (ICR 56) relating to hazards to the public safety and health, during the removal, encapsulation, or disturbance of friable asbestos, or any handling of ACM that may result in the release of asbestos fiber.

As specified in Title 12 NYCRR Part 56-5.1 (h) and (i), "If the building/structure asbestos survey finds that the portion of the building/structure to be demolished, renovated, remodeled, or have repair work contains ACM, PACM, suspect miscellaneous ACM assumed to be ACM, or asbestos material, which is impacted by the work, the owner or the owner's agent shall conduct, or cause to have conducted, asbestos removal performed by a licensed asbestos abatement contractor in conformance with all standards set forth in this Part. All ACM, PACM, suspect miscellaneous ACM assumed to be ACM, or asbestos material impacted by the demolition, renovation, remodeling or repair project shall be removed as per this Part, prior to access or disturbance by other uncertified trades or personnel. No demolition, renovation, remodeling or repair work shall be commenced by any owner or the owner's agent prior to the completion of the asbestos abatement in accordance with the notification requirements of this Part…All building/structure owners and asbestos abatement contractors on a demolition, renovation, remodeling, or repair project, which includes work covered by this part, shall inform all trades on the work site about PACM, ACM, asbestos material and suspect miscellaneous ACM…Bids may be advertised and contracts awarded for demolition, remodeling, renovation, or repair work, but no work on the current intermediate portion of the project shall commence on the demolition, renovation, remodeling or repair work by any owner or agent prior to completion of all necessary asbestos abatement work for the current intermediate portion of the entire project, in conformance with all standards set forth in this Part." All work conducted should be in accordance with all legal requirements, including but not limited to U.S. Environmental Protection Agency (EPA) National Emissions Standards for Hazardous Air Pollutants (NESHAP) [40 CFR Part 61], New York State Industrial Code Rule 56 Asbestos Regulations (ICR 56) and Chapter 1 of Title 15 of the Rules of the City of New York Regulations, as applicable. Advance notification of the asbestos project to the USEPA, NYSDOL, and NYCDEP may be required.

NEW YORK CITY

Asbestos Control Program (ACP), Title 15, Chapter 1 of the New York City Department of Environmental Protection (NYCDEP) regulates all asbestos abatement activities occurring within the City of New York. The ACR regulations also require asbestos surveys and abatement work to be performed by a NYCDEP certified asbestos investigator and asbestos workers, respectively.

The New York City Department of Buildings (NYCDOB) requires an ACP notification to be included with the renovation/demolition permit applications. The notification is performed using an ACP 5 or ACP 20/21 forms.

All confirmed ACM will need to be removed prior to any building renovation or demolition. The removal and disposal of ACM must be performed by a NYS-DOL licensed asbestos handling contractor in accordance with Federal, state, and local regulations. Proper notifications must be filed with the US-EPA, NYS-DOL, NYC-DEP and other regulatory agencies prior to performing such activities.

As required by the NYS-DOL and NYC-DEP regulations, the abatement project must be monitored by a NYS-DOL certified project monitor. The project monitor oversees contractor's work practices and also performs pre, during, and final clearance post abatement air sampling in accordance with the state and city regulations.

CONCEALED ACM

In addition to the ACMs identified at the site, there is a possibility that concealed suspect ACM may exist at the building/structure. As such, if any concealed suspect ACM is encountered during future construction related activities, the work should immediately stop. Prior to resuming the work, the suspect ACM should either be 1) Sampled by an appropriately-certified asbestos professional and submitted to an Approved NYSDOH ELAP laboratory for asbestos analysis or 2) Presumed to be ACM (PACM) and removed by a licensed asbestos abatement contractor for disposal in accordance with all applicable regulations.

## 4.0 Lead-based Paint (LBP)

### 4.1 Applicable Standards/Guidelines for LBP

The U.S Department of Housing and Urban Development (HUD) defines the action level for lead-based paint as a lead content equal to or greater than 1.0 milligrams of lead per square centimeter of painted surface (≥1.0 mg $Pb/cm^2$) when measured with an XRF analyzer or 0.5 percent by weight when chemically tested. This definition is described in the HUD "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing, September 1990". The state of New York's definition of the action level for lead-based paint is consistent with the level established by HUD.

Please note that although the HUD defines lead-based paint as paint having lead concentrations equal or greater than 1.0 mg/cm2, the Occupational Safety and Health Administration (OSHA) considers any concentration of lead in paint to be lead-containing paint. Regardless of the lead concentrations in paint, the contractor shall comply with 29 CFR 1926.62, OSHA regulations, and take precautionary measures for dust control and limit employee exposure to lead dust during the renovations.

Painted surfaces that would be impacted by planned activities such as drilling, cutting, scrapping, etc. and create dust should be properly addressed by following safe work practices, good housekeeping procedures and/or following proper abatement procedures. Grinding and sanding of paint without HEPA filter exhaust, open flame gas fired torch, unconfined abrasive blasting, and chemical strippers containing methylene chloride or other human carcinogenic chemicals are not recommended.

The Federal Resource Conservation and Recovery Act (RCRA) regulation governs the handling, transportation, and disposal of hazardous materials. Every demolition/renovation debris generator has the responsibility to determine whether the debris exhibits one or more of the characteristic wastes listed in subpart C of 40 CFR Part 261. In the case of demolition debris, lead in LBP is a characteristic waste, and therefore, it is the responsibility of the renovation/demolition debris generator to characterize the waste prior to its disposal and, if found to be hazardous waste as defined by Federal Statutes, to be properly handled and disposed.

Metal objects painted with LBP are exempt from disposal regulations applicable to lead, provided they are properly recycled. All metal objects that are painted with LBP should be sent to a certified recycling facility.

This report is not Lead-based Paint abatement specification and should not be used for specifying removal methods or techniques.

### 4.2 XRF Information

Thermo Scientific Niton XLp 300A X-Ray Fluorescence (XRF), Heuresis Corp. Pb200i X-Ray Fluorescence (XRF) Analyzer(s) were used to survey the building/structure or portion thereof identified to be demolished, renovated, remodeled or repaired for the presence of LBP. The XRF analyzers are using a sealed source of XLp 300A X-Ray Fluorescence (XRF) Cd109 with 40mCi and the Pb200i X-Ray Fluorescence (XRF) Co 57 with 5mCi sources, meeting HUD requirements for the analysis of paint films. During the analysis, the intensity of the x-rays is converted by the instrument's internal software into an estimate of the concentration of lead in the substance being analyzed. The results are interpreted as concentrations of lead in milligrams per square centimeter. This device is a field-screening tool, used to collect multiple readings in a short period of time. The method of measurement is based on spectrometric analysis of lead x-ray fluorescence within a controlled depth of interrogation. The reading is an estimate of lead content in all layers of paint. The results are displayed in milligrams per square centimeter (mg/cm2). The device(s) used for this inspection were the Thermo Scientific Niton XLp 300A Analyzer(s), Serial number 102951, Source date 9/15/17, and/or Heuresis Corp. Pb200i X-Ray Fluorescence (XRF) Analyzer(s) Serial

Number 2104, Source date 1/25/19, Serial number 2231, Source date 4/5/19, Serial number 2595, Source date 1/31/20.

## 5.0 PolyChlorinated Biphenyls (PCB)

### 5.1 Background and Protocol for PCBs

PolyChlorinated Biphenyls (PCB) are a group of manmade chemicals. PCBs were widely used in building materials and electrical products in the past. The U.S. Environmental Protection Agency banned the manufacturing and certain uses of PCBs in 1978, but buildings constructed or renovated between 1950 and 1978 may still have building materials and electrical products that contain PCBs. Examples of products that may contain PCBs include caulk, paint, glues, plastics, fluorescent lighting ballasts, transformers and capacitors.

PCBs are currently prohibited from being used in caulk and other commodities (U.S. EPA, 40 CFR 761). However, prior to 1977, PCBs were present in some caulking materials used in the construction of schools and other buildings. Studies have shown that concentrations of PCB can exceed 1% (10,000 ppm) by weight in some caulk materials. An investigation of 24 buildings in the Greater Boston Area revealed that one-third of the buildings tested (8 of 24) contained caulking materials with polychlorinated biphenyl (PCB) content exceeding 50 ppm by weight with an average concentration of 15,600 ppm or 1.5% (Herrick et al., 2004). These buildings included schools and other public buildings.

The U.S. EPA regulates the disposal of caulk, as well as soil and other materials contaminated with PCBs from caulk, if the concentration of PCBs exceeds 50 ppm. Such materials must be disposed at an appropriate approved or permitted facility.

U.S. EPA regulation 40 CFR 761 defines "PCB remediation waste" to include contaminated soil, and specifies a clean-up level of <1ppm without further conditions for unrestricted use in "high occupancy areas" (i.e., areas where individuals may be present for 335 hours or more per year). PCB caulk is defined as a PCB bulk product waste, and its disposal is subject to U.S. EPA regulations under the Toxic Substances Control Act (40 CFR761.62).

This protocol has been developed in consultation with the New York State Department of Health, Division of Environmental Health Assessment, Bureau of Toxic Substance Assessment to address concerns about properly managing caulk containing PCBs that will be disturbed during building renovation and maintenance.

CAULK SAMPLE COLLECTION

Buildings constructed or renovated between 1950 and 1977 have a potential to contain PCBs in existing caulk. Representative samples of caulking materials from these buildings prior to renovation or demolition work should be tested to determine whether the caulk is contaminated with PCBs. Professional judgement should be used to design the sampling plan for characterizing caulk throughout the building. The consultant should pay particular attention to construction and maintenance records and to the appearance of caulking materials (likenesses and differences). Samples should be taken from window frames or expansion joints that have not been repaired or replaced since 1977. Depending on specific information provided in the workplan developed by the project manager, such as window placement, compositing of some caulk samples might be appropriate. Caulk from different time periods or that have a different appearance should not be composited together.

It is important to note that caulk used during the time period of interest may also contain asbestos or lead. Therefore, the work plan should include testing, handling and disposal requirements appropriate for such regulated materials.

SOIL SAMPLE COLLECTION

Buildings constructed or renovated between 1950 and 1977, which have undergone further renovation after 1977, may have residual PCB contamination in adjacent soils. An adequate representation of surface soils should be tested to assess the potential for residual PCB contamination.

When designing a representative soil sampling plan, the likelihood of soil contamination from deteriorated or deteriorating caulk should be considered. Caulk that has in the past dried out and fallen to the ground is the most important source of soil contamination. Thus, sampling should include soil beneath windows where caulk has obviously deteriorated or been replaced because of previous deterioration. Areas subject to the stress of sun and prevailing weather (typically the southern and western side of each structure) should be included for sampling. These samples would provide a conservative evaluation of soil conditions due to an increased potential for material failure, possibly resulting in contamination of soil. Also, if earlier renovation or demolition work may have stockpiled potentially contaminated caulk in other school areas, the school should consider having soils in those areas tested as well.

Soil sampling should focus on areas of the building where "banks" or "gangs" of windows exist/were replaced and areas of the structure where large expansion joints are located. This would provide a conservative evaluation of potential soil contamination and permit efficient sampling.

Any obvious pieces of caulk encountered during the collection of soil samples should be removed from the soil, categorized (with respect to location and depth) and treated as a separate potential sample.

Depth – At each soil sample location, soil should be collected in depth intervals of 0-2 inches, 2-6 inches and 6-12 inches. The surface soil sample (0-2 inches) should be collected from below the vegetative surface layer, if present.

Distance from Structure – Samples should be collected within 1 foot of the building and 5 feet from the building.

Samples should be collected in a manner that prevents cross-contamination. Augers or driven core samplers should be avoided, as any caulk caught on the edge of this type of tool could be driven to lower intervals. Using a designated trowel for each sample location and each interval of depth is encouraged. If the sampling tool is field cleaned between samples, do so in a manner that does not add solvent contamination to the environment.

NOTE

Sampling was performed by **Adelaide** in compliance with protocols outlined by New York State Education Department (NYSED) and USEPA 40 CFR 761, as described above. Only one sample per homogeneous area was required for analysis of suspect PCB-containing materials. Bulk sample(s) were properly packaged and forwarded, with associated Chain of Custody (COC), to York Analytical Laboratories, Inc., for analysis using method SW846-3550B/8082. The analysis will determine if the suspect material will be classified as PCB-containing at or above 50 ppm or mg/kg as per the EPA regulations. Copies of the analytical results are contained within attached appendices for review.

## 6.0 General Discussion

All construction personnel as well as individuals who have access to locations where asbestos-containing materials (ACM), lead-based paints (LBP) and/or polychlorinated biphenyls (PCB) exists should be informed of its presence and the proper work practices in these areas. Conspicuous labeling of all ACM is suggested to ensure personnel is adequately informed. Personnel should be informed not to rest, lean or store material or equipment on or near these surfaces and not to cut, saw, drill, sand or disturb ACM. All removal, disturbance, and repair of ACM should be performed in compliance with Title 12 NYCRR Part 56 by persons properly trained to handle ACM. Facility custodial and maintenance personnel should receive training commensurate with their work activities; as defined in 29 CFR 1910.1001.

## 7.0 Disclaimers

**Adelaide** certifies that the information contained within this report is based solely upon site observations and the results of laboratory analysis for samples collected during this survey/assessment. These observations and results are time dependent, subject to changing site conditions and revisions to Federal, State and Local regulations. **Adelaide** warrants that these findings have been promulgated after being prepared in general accordance with generally accepted practices in the abatement industries. **Adelaide** also recognizes that inspection laboratory data is not usually sufficient to make all abatement and management decisions. No other warranties are expressed or implied.

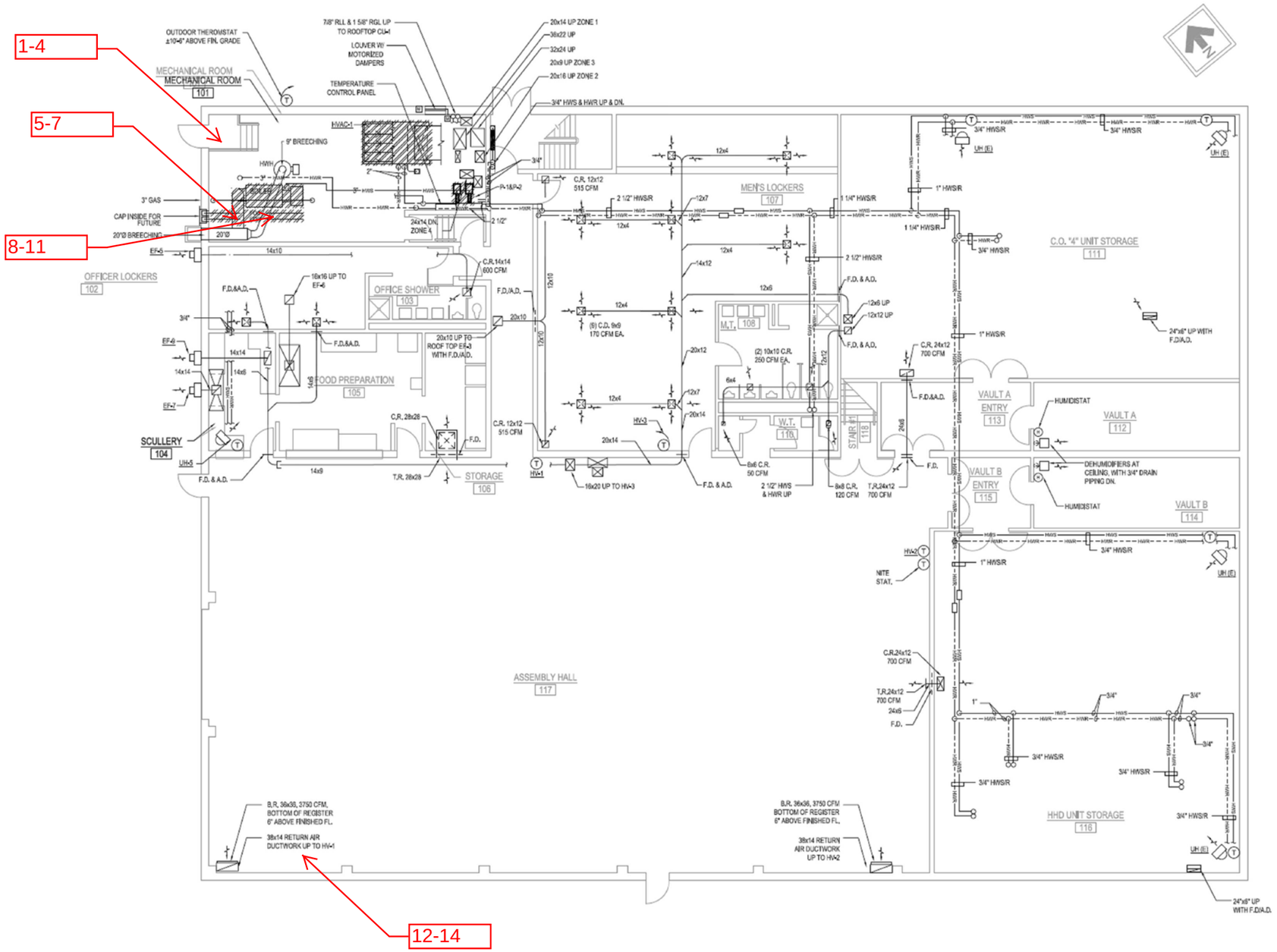
Due to the potential for concealed Asbestos-containing Materials (ACM) and/or other regulated materials, this report should not be construed to represent all ACM and/or regulated materials within the site(s). All quantities of ACM and/or other regulated materials identified, and all dimensions listed within this report are approximate and should be verified On-site.

This inspection report is not intended to be used as the sole basis for soliciting pricing for asbestos abatement. An abatement plan, specification, drawing and/or Variances should be developed to identify scope, timing, phasing and remediation means & methods for any asbestos project. The Linear and/or Square Footages (LF / SF) listed within this Report are only approximates. Abatement Contractor(s) are required to visit the building(s) in order to take actual field measurements within each listed location.

NYSDOH issued an Interim Guidance Letter, on July 9, 2013, which outlined the approved testing alternative for materials containing vermiculite. Specifically, "...Where TSI, surfacing materials, or other PACM or miscellaneous suspect ACM contain greater than 10% vermiculite, Item 198.6 may be used to evaluate the asbestos content of the material; provided, however, that any test results using this method must be reported with the following conspicuous disclaimer: *"This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."* On July 22, 2014, NYSDOH issued a Regulatory Guidance Letter outlining the new approved analytical methods for testing sprayed-on fireproofing (SOFP) that contains vermiculite. NYSDOH authorized the use of ***two*** analytical methods to evaluate the asbestos content of SOFP that contains vermiculite. As per NYSDOH Guidelines, *"After October 31, 2014, one of the new methods **must** be used to test SOF-V, regardless of the percent of vermiculite."* On May 6, 2016, NYSDOH issued a Regulatory Guidance Letter outlining the new protocol for analytical procedure for surfacing materials (ie. plaster, stucco, etc.) that contain vermiculite. As per NYSDOH Guidelines, "*The original July 2013 and July 2014 letters addressed SOF-V only. Both NYS DOH's Item 198.8 and RJ Lee Group Method 055 shall now be applied to test for vermiculite in other Surfacing Material (SM) as defined in 12 NYCRR Part 56 (NYS Industrial Code Rule 56).*"

# APPENDIX A

# SAMPLE LOCATION MAP(S)




Level 1 Key Plan - Sample Locations

**Drawing Not to Scale**


Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
Fax: (845) 278-7750


**CLIENT:**
**McFarland-Johnson**
49 Court Street
Binghamton, New York 13901

**OGS Project #**
**46166**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 08/18/2020

**DRAWING VERSION:** No. 1

**ISSUED FOR:**
Limited HazMat Survey

**ADELAIDE PROJECT NO.:**
MACF:20060.00-IN

**DRAWING PREPARED BY:**
PJP

**SL-01**

# APPENDIX B

# ASBESTOS ANALYTICAL RESULTS

# Table I
## Summary of Bulk Asbestos Analysis Results
OGSx:20060.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, NY 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 01 | 1 | 1A | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Ceiling - Sheetrock | | | | | | | | |
| 02 | 2 | 1A | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Ceiling - Sheetrock | | | | | | | | |
| 03 | 3 | 1B | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Ceiling - Joint Compound | | | | | | | | |
| 04 | 4 | 1B | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Ceiling - Joint Compound | | | | | | | | |
| 05 | 5 | 2 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Breeching - Mudded Fitting | | | | | | | | |
| 06 | 6 | 2 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Breeching - Mudded Fitting | | | | | | | | |
| 07 | 7 | 2 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Breeching - Mudded Fitting | | | | | | | | |
| 08 | 8 | 3A | 0.202 | 45.4 | 45.4 | 9.2 | NAD | NAD |
| Location: 1st Fl. / MER / Boiler Sections / Top Layer - Tar | | | | | | | | |
| 09 | 9 | 3A | 0.257 | 48.4 | 44.8 | 6.8 | NAD | NAD |
| Location: 1st Fl. / MER / Boiler Sections / Top Layer - Tar | | | | | | | | |
| 10 | 10 | 3B | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Boiler Sections / Bottom Layer - Rope Gasket | | | | | | | | |
| 11 | 11 | 3B | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Fl. / MER / Boiler Sections / Bottom Layer - Rope Gasket | | | | | | | | |
| 12 | 12 | 4 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Fl. / Assembly Hall / HV-1 Ductwork / Over FG - Canvas Wrap | | | | | | | | |
| 13 | 13 | 4 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Fl. / Assembly Hall / HV-1 Ductwork / Over FG - Canvas Wrap | | | | | | | | |
| 14 | 14 | 4 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Fl. / Assembly Hall / HV-1 Ductwork / Over FG - Canvas Wrap | | | | | | | | |

See Reporting notes on last page

Client Name: Adelaide Environmental Health

## Table I
## Summary of Bulk Asbestos Analysis Results

OGSx:20060.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, NY 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|

Analyzed by: Khaalid W. Perine; Date Analyzed 8/13/2020 Hitachi #747/Nova

**Quantitative Analysis (Semi/Full); Bulk Asbestos Analysis - PLM by Appd E to Subpt E, 40 CFR 763 or NYSDOH ELAP 198.1 for New York friable samples or NYSDOH ELAP 198.6 for New York NOB samples; TEM (Semi/Full) by EPA 600/R-93/116 (or NYSDOH ELAP 198.4; for New York samples); NAD = no asbestos detected during a quantitative analysis; NA = not analyzed; Trace = <1%; (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only; Qualitative Analysis: Asbestos analysis results of "Present" or "NVA = No Visible Asbestos" represents results for Qualitative PLM or TEM Analysis only (no accreditation coverage available from any regulatory agency for qualitative analyses): NVLAP (PLM) 200546-0, NYSDOH ELAP Lab 11480, AIHA-LAP, LLC (PLM) Lab ID 102843.

Warning Note: PLM limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed deposits for which PLM evaluation is recommended (i.e. soils and other heterogenous materials).

Reviewed By: for PM

**AmeriSci New York**
117 EAST 30TH ST.
NEW YORK, NY 10016
TEL: (212) 679-8600 • FAX: (212) 679-3114

# PLM Bulk Asbestos Report

Adelaide Environmental Health
Attn: John Soter
1511 Rte. 22, Suite C24

Brewster, NY 10509

**Date Received** 08/13/20 **AmeriSci Job #** 220082255
**Date Examined** 08/13/20 **P.O. #**
**ELAP #** 11480 **Page** 1 **of** 3
**RE:** OGSx:20060.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, NY 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 1<br>1A | 220082255-01<br>**Location:** 1st Fl. / MER / Ceiling - Sheetrock | *No* | NAD [1]<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Brown/White, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 7 %, Fibrous glass Trace, Non-fibrous 93 % | | | |
| 2<br>1A | 220082255-02<br>**Location:** 1st Fl. / MER / Ceiling - Sheetrock | *No* | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Grey, Homogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 2 %, Fibrous glass 1 %, Non-fibrous 97 % | | | |
| 3<br>1B | 220082255-03<br>**Location:** 1st Fl. / MER / Ceiling - Joint Compound | *No* | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose Trace, Non-fibrous 100 % | | | |
| 4<br>1B | 220082255-04<br>**Location:** 1st Fl. / MER / Ceiling - Joint Compound | *No* | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose Trace, Non-fibrous 100 % | | | |
| 5<br>2 | 220082255-05<br>**Location:** 1st Fl. / MER / Breeching - Mudded Fitting | *No* | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Grey, Homogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose Trace, Fibrous glass 15 %, Non-fibrous 85 % | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSx:20060.00-IN; Yonkers Armory; 2 Quincy Place,
Yonkers, NY 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 6<br>2 | 220082255-06<br>**Location:** 1st Fl. / MER / Breeching - Mudded Fitting | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Grey/Brown, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose Trace, Fibrous glass 7 %, Non-fibrous 93 % | | | |
| 7<br>2 | 220082255-07<br>**Location:** 1st Fl. / MER / Breeching - Mudded Fitting | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Grey, Homogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose Trace, Fibrous glass 10 %, Non-fibrous 90 % | | | |
| 8<br>3A | 220082255-08<br>**Location:** 1st Fl. / MER / Boiler Sections / Top Layer - Tar | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Black, Homogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Fibrous glass 3 %, Non-fibrous 6.2 % | | | |
| 9<br>3A | 220082255-09<br>**Location:** 1st Fl. / MER / Boiler Sections / Top Layer - Tar | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Fibrous glass Trace, Non-fibrous 6.8 % | | | |
| 10<br>3B | 220082255-10<br>**Location:** 1st Fl. / MER / Boiler Sections / Bottom Layer - Rope Gasket | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Grey, Homogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose Trace, Fibrous glass 97 %, Non-fibrous 3 % | | | |
| 11<br>3B | 220082255-11<br>**Location:** 1st Fl. / MER / Boiler Sections / Bottom Layer - Rope Gasket | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** Grey, Homogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose Trace, Fibrous glass 98 %, Non-fibrous 2 % | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSx:20060.00-IN; Yonkers Armory; 2 Quincy Place,
Yonkers, NY 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 12<br>4 | 220082255-12<br>**Location:** 2nd Fl. / Assembly Hall / HV-1 Ductwork / Over FG - Canvas Wrap | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** White, Homogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 75 %, Fibrous glass Trace, Non-fibrous 25 % | | | |
| 13<br>4 | 220082255-13<br>**Location:** 2nd Fl. / Assembly Hall / HV-1 Ductwork / Over FG - Canvas Wrap | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** OffWhite/Yellow, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 40 %, Fibrous glass 5 %, Non-fibrous 55 % | | | |
| 14<br>4 | 220082255-14<br>**Location:** 2nd Fl. / Assembly Hall / HV-1 Ductwork / Over FG - Canvas Wrap | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Valeriu Voicu<br>on 08/13/20 |
| **Analyst Description:** OffWhite, Homogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 80 %, Fibrous glass 1 %, Non-fibrous 19 % | | | |

**Reporting Notes:**

(1) This PLM job was analyzed using Olympus BH-2 Pol Scope S/N 229915

Analyzed by: Valeriu Voicu _____

*NAD/NSD =no asbestos detected; NA =not analyzed; NA/PS=not analyzed/positive stop, (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; PLM Bulk Asbestos Analysis by Appd E to Subpt E, 40 CFR 763 (NVLAP 200546-0), ELAP PLM Method 198.1 for NY friable samples, which includes the identification and quantitation of vermiculite or ELAP 198.6 for NOB samples or EPA 400 pt ct by EPA 600-M4-82-020 (NY ELAP Lab 11480); Note:PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos-containing in NY State (also see EPA Advisory for floor tile, FR 59,146,38970,8/1/94) National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab.This PLM report relates ONLY to the items tested. AIHA-LAP, LLC Lab ID 102843, RI Cert AAL-094, CT Cert PH-0186, Mass Cert AA000054.

Reviewed By:_____ _____END OF REPORT_____

**Adelaide Environmental Health Associates, Inc**
1511 Route 22, Suite C24
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: **Yonkers Armory** | Date: **08/12/20** | Inspector(s) **Philip J. Page** |
|---|---|---|
| **2 Quincy Place** | | |
| **Yonkers, NY 10701** | Project #: **OGSx:20060.00-IN** | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable NonFriable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 1 | $1_A$ | 1 | MER, CEILING - SHEETROCK | | | |
| 2 | ↓ | ↓ | ↓ | | | |
| 3 | $1_B$ | ↓ | - JOINT COMPOUND #220082255 | | | |
| 4 | ↓ | ↓ | ↓ | | | |
| 5 | 2 | ↓ | , BREECHING - MUDDED FITTINGS | | | |
| 6 | ↓ | ↓ | ↓ | | | |
| 7 | ↓ | ↓ | ↓ | | | |
| 8 | $3_A$ | ↓ | , BOILER SECTIONS, TOP LAYER - TAR | | | |
| 9 | ↓ | ↓ | ↓ | | | |
| 10 | $3_B$ | ↓ | , BOTTOM - ROPE GASKET | | | |
| 11 | ↓ | ↓ | ↓ | | | |
| 12 | 4 | 2 | ASSEMBLY HALL, HV-1 DUCTWORK, OVER FG - CANVAS WRAP | | | |
| 13 | ↓ | ↓ | ↓ | | | |

Special Instructions/ Turnaround Time:

**Stop at 1st Positive per Homogenous Area** **24HR TAT**

**E-Mail Results to AdelaideLabResults@adelaideilc.com & ppage@adelaideilc.com**

Relinquished by:
Received by: 8/13/20 1115
Relinquished by:
Received by:

**Adelaide Environmental Health Associates, Inc**
1511 Route 22, Suite C24
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: | Date: | Inspector(s) |
|---|---|---|
| **Yonkers Armory** | **08/12/20** | **Philip J. Page** |
| **2 Quincy Place** | | |
| **Yonkers, NY 10701** | Project #: **OGSx:20060.00-IN** | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable NonFriable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 14 | 4 | 2 | Assembly Hall, HV-1 Ductwork, over FG - Canvas Wrap | | | |
| | | | | | | |
| | | | | | | |
| | | | #22008225 5 | | | |
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| | | | | | | |

Special Instructions/ Turnaround Time:

**Stop at 1st Positive per Homogenous Area** ***24HR TAT***

**E-Mail Results to AdelaideLabResults@adelaidellc.com & ppage@adelaidellc.com**

Relinquished by:
Received by: 8/13/20 1115
Relinquished by:
Received by:

# APPENDIX C

# XRF READINGS

Adelaide Environmental Heath Associates Inc.
1511 Route 22, Suite C-24
Brewster, New York 10509
Adelaide Project# MACF:20060.00-IN
OGS Project# 46166
Project Name: Yonkers Armory- Boiler Replacement Project
Inspector: Philip J. Page

| Reading # | Date | Time | Space Type | Floor | Room | Component | Substrate | Color | Condition | Lead Concentration (mg/cm2) | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | **8/12/2020** | **7:43:48** | **Yonkers Armory** | | **Calibration** | | | | | **1.1** | **Positive** |
| **2** | **8/12/2020** | **7:44:01** | **Yonkers Armory** | | **Calibration** | | | | | **1** | **Positive** |
| **3** | **8/12/2020** | **7:44:14** | **Yonkers Armory** | | **Calibration** | | | | | **1.1** | **Positive** |
| 4 | 8/12/2020 | 7:47:40 | Yonkers Armory | 2nd Floor | Gym | HV-1 | Metal | Grey | Fair | 0.1 | Negative |
| 5 | 8/12/2020 | 7:47:48 | Yonkers Armory | 2nd Floor | Gym | HV-1 | Metal | Grey | Fair | 0 | Negative |
| 6 | 8/12/2020 | 7:48:16 | Yonkers Armory | 2nd Floor | Gym | Ductwork | Metal | Light Grey | Fair | 0.1 | Negative |
| 7 | 8/12/2020 | 7:48:23 | Yonkers Armory | 2nd Floor | Gym | Ductwork | Metal | Light Grey | Fair | 0 | Negative |
| 8 | 8/12/2020 | 7:50:48 | Yonkers Armory | 2nd Floor | Gym | Bar Joist | Metal | Red | Fair | 0.2 | Negative |
| 9 | 8/12/2020 | 8:49:36 | Yonkers Armory | 1st Floor | MER | Ceiling | Drywall | White | Fair | 0 | Negative |
| **10** | **8/12/2020** | **8:50:14** | **Yonkers Armory** | **1st Floor** | **MER** | **Pipe** | **Metal** | **Orange** | **Fair** | **1.6** | **Positive** |
| **11** | **8/12/2020** | **8:50:39** | **Yonkers Armory** | **1st Floor** | **MER** | **Pipe** | **Metal** | **Orange** | **Fair** | **1.5** | **Positive** |
| 12 | 8/12/2020 | 8:50:56 | Yonkers Armory | 1st Floor | MER | Pipe | Metal | Yellow | Fair | 0.1 | Negative |
| 13 | 8/12/2020 | 8:51:15 | Yonkers Armory | 1st Floor | MER | Pipe | Metal | Yellow | Fair | 0.2 | Negative |
| 14 | 8/12/2020 | 8:52:23 | Yonkers Armory | 1st Floor | MER | Boiler | Metal | Grey | Fair | 0 | Negative |
| 15 | 8/12/2020 | 8:52:55 | Yonkers Armory | 1st Floor | MER | Burner | Metal | Blue | Fair | 0.3 | Negative |
| 16 | 8/12/2020 | 8:53:45 | Yonkers Armory | 1st Floor | MER | HV-1 | Metal | Grey | Fair | 0.1 | Negative |
| 17 | 8/12/2020 | 8:54:16 | Yonkers Armory | 1st Floor | MER | Pump | Metal | Red | Fair | 0.4 | Negative |
| 18 | 8/12/2020 | 8:54:26 | Yonkers Armory | 1st Floor | MER | Pump | Metal | Red | Fair | 0.2 | Negative |
| 19 | 8/12/2020 | 9:06:10 | Yonkers Armory | Exterior | Roof | Trane Unit | Metal | Light Green | Poor | 0.1 | Negative |
| 20 | 8/12/2020 | 9:06:45 | Yonkers Armory | Exterior | Roof | Curb | Metal | Black | Fair | 0.3 | Negative |
| **21** | **8/12/2020** | **9:11:57** | **Yonkers Armory** | | **Calibration** | | | | | **1** | **Positive** |
| **22** | **8/12/2020** | **9:12:10** | **Yonkers Armory** | | **Calibration** | | | | | **1** | **Positive** |
| **23** | **8/12/2020** | **9:12:23** | **Yonkers Armory** | | **Calibration** | | | | | **1.1** | **Positive** |

# APPENDIX D

# PERSONNEL AND LABORATORY CERTIFICATIONS

**New York State – Department of Labor**
Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

# ASBESTOS HANDLING LICENSE

Adelaide Environmental Health Associates, Inc.
Suite C24
1511 Route 22

Brewster, NY 10509

FILE NUMBER: 99-0656
LICENSE NUMBER: 29305
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 06/29/2020
EXPIRATION DATE: 07/31/2021

Duly Authorized Representative – John Soter:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Eileen M. Franko, Director
For the Commissioner of Labor

SH 432 (8/12)

# United States Environmental Protection Agency

## This is to certify that

Adelaide Environmental Health Associates, Inc

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint renovation, repair, and painting activities pursuant to 40 CFR Part 745.89

## In the Jurisdiction of:

All EPA Administered States, Tribes, and Territories

This certification is valid from the date of issuance and expires December 05, 2022

NAT-15081-2

Certification #

June 21, 2017

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S



**PHILIP J PAGE**
CLASS(EXPIRES)
C ATEC(05/21) D INSP(05/21)
H PM (05/21) I PD (05/21)

CERT# 12-10888
DMV# 216687928

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 00536798828

EYES BRO
HAIR BLN
HGT 6' 00"

IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

# United States Environmental Protection Agency

## This is to certify that



Philip J Page

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires March 23, 2023

LBP-I-I172697-2

Certification #

December 23, 2019

Issued On

Susan Schulz, Acting Chief

Chemicals and Multimedia Programs Branch

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**

Expires 12:01 AM April 01, 2021
Issued April 01, 2020

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*DR. THOMAS R. MCKEE*
*AMERISCI RICHMOND*
*13635 GENITO RD*
*MIDLOTHIAN, VA 23112*

*NY Lab Id No: 10984*

*is hereby APPROVED as an Environmental Laboratory for the category*
*ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE*
*All approved subcategories and/or analytes are listed below:*

**Miscellaneous**

| | |
|---|---|
| Asbestos in Friable Material | Item 198.1 of Manual |
| | EPA 600/M4/82/020 |
| Asbestos in Non-Friable Material-PLM | Item 198.6 of Manual (NOB by PLM) |
| Asbestos in Non-Friable Material-TEM | Item 198.4 of Manual |
| Asbestos-Vermiculite-Containing Material | Item 198.8 of Manual |

NEW YORK STATE | Department of Health

Serial No.: 61267

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

Adelaide
ENVIRONMENTAL HEALTH

1511 Route 22, Suite C24
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Buffalo, NY 14221 716.402.4580
E-mail: adelaidemail@adelaidellc.com
Fax: 845.278.7750

# RENOVATION SURVEY
# FOR
# ASBESTOS-CONTAINING MATERIALS, LEAD-BASED PAINT & PCBs

**PERFORMED AT:**

Yonkers Armory
2 Quincy Place
Yonkers, New York 10701
Adelaide Project# BA:23168.00-IN
OGS Project# 47477

**PREPARED FOR:**

Greg Springer
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**PREPARED BY:**
Jason Fullum
June 15, 2023

**REVIEWED BY:**



Stephanie A. Soter
President

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## 1.0 Introduction

### 1.1 Scope of Work / Project Personnel

Adelaide Environmental Health Associates, Inc. **(Adelaide)** performed an Asbestos, Lead and PCB Survey for Building/Structure Demolition, Renovation, Remodeling and/or Repair, in conformance with ALL Federal, State and Local regulations for Bergmann:

| | |
|---|---|
| **SURVEY LOCATION(S):** | Yonkers Armory, 2 Quincy Place, Yonkers, New York 10701 |
| **SURVEY DATE(S):** | June 6, 2023 |
| **SCOPE OF WORK:** | Entire building renovation excluding the roof. |
| **SCOPE OF WORK BUILDING/ STRUCTURE PLANS UTILIZED:** | As built drawings from 1985 were utilized for the inspection. |
| **CERTIFIED ADELAIDE PERSONNEL:** | Jason Fullum (NYS Asbestos Inspector/Cert. #97-20574 and EPA Lead-based Paint Risk Assessor/Cert. #LBP-R-12098-2) |
| **SITE CONTACT(S):** | Trentin Reese - Bergmann |

### 1.2 Executive Summary

On June 6, 2023, **Adelaide** inspected the first floor, second floor and exterior areas that will be affected by the proposed scope of work for suspect ACM, LBP and PCBs.

| SUSPECT HAZARDOUS MATERIAL | SAMPLE(S)/LAYER(S)/ READING(S) COLLECTED | SAMPLE(S) / HOMOGENEOUS AREA(S) IDENTIFIED POSITIVE |
|---|---|---|
| Asbestos-containing Materials (ACM): | 56 | 0 |
| Lead-based Paint (LBP): | 31 (plus calibrations) | 0 |
| PolyChlorinated Biphenyls (PCB): | 6 | 0 |

The following indicates assumed materials due to live electric at the time of the inspection.

- PACM electrical wiring insulation and panels, mirror mastic

There are **asbestos materials that will be impacted** by this scope of work as described in section 1.1. These materials are listed in section 2.1.

### 1.3 Conclusions and Recommendations

The following conclusions and recommendations are prepared by **Adelaide** as per the provided scope of work for Building/Structure Demolition, Renovation, Remodeling and/or Repair. Should the scope of work change, it is recommended that the findings be revisited to determine if additional sampling will be required to satisfy ALL Federal, State and Local regulations.

The materials sampled, as part of this survey, were limited to building materials potential affected by the provided scope of work only. All building materials outside the scope of work that have the potential to be disturbed, impacted, or if the scope of work is to change, are to be presumed asbestos-containing materials (PACM). Identified PACM **must** either be sampled by a licensed NYS Asbestos Inspector and/or abated/removed and disposed of by a licensed NYS Asbestos Abatement Contractor.

## 1.4 Asbestos-containing Materials (ACM)

- This survey concluded that the materials listed in Section 2.1 are assumed ***positive for asbestos***.

- There are asbestos materials that will be impacted by this scope of work. These materials are listed in section 2.1. Refer to Appendix A for the approximate location of the above materials in the affected scope of work.

- Subpart 56-5(h) of 12 NYCRR Part 56 requires that no demolition, renovation, remodeling, or repair work be commenced by any owner or the owner's agent prior to the completion of asbestos abatement. Asbestos abatement must be performed by an asbestos abatement contractor that maintains a current asbestos handling license and employs NYSDOL/NYCDEP certified asbestos handlers and supervisors. It is recommended that a 12 NYCRR 56 certified Project Monitor oversee abatement activities.

- Subpart 56-5(g) of 12 NYCRR Part 56 specifies requirements for transmittal of asbestos survey information by the owner or owner's agent. (1) One copy of the asbestos survey report shall be sent to the local government entity charged with issuing a permit for such demolition, renovation, remodeling, or repair work under applicable State or local laws. (2) If controlled demolition or pre-demolition activities will be performed, one copy of the asbestos survey report shall be submitted to the appropriate Asbestos Control Bureau district office. (3) One copy of the asbestos survey report must be kept on the construction site throughout the duration of the asbestos project and any associated demolition, renovation, remodeling, or repair project.

## 1.5 Lead-based Paint (LBP)

- This survey concluded that the readings summarized in Section 2.3 and Appendix E tested ***negative for lead-based paint.***

## 1.6 PolyChlorinated Biphenyls (PCB)

- This survey concluded that the materials listed in Section 2.4 and Appendix F tested ***negative for PCBs.***

## 2.0 Summary of Hazardous Materials

### 2.1 Summary of Identified ACM/PACM

KEY: **ACM** = Materials containing greater than 1% of asbestos; **HA** = Homogeneous Area; **LF** = Linear Feet; **SF** = Square Feet; **PACM** = Presumed Asbestos-containing Materials; **Friable** = ACM capable of being released into air, and which can be crumbled, pulverized, powdered, crushed or exposed by hand-pressure; [A] = Material is considered non-friable solely in an intact and undisturbed state, however, may be rendered friable if pulverized or crumbled while in dry state.

Samples collected by **Adelaide** June 6, 2023

| HA | Identified ACM | ACM Location(s) | Approx. Qty. | Condition | Friable? (Yes or No) |
|---|---|---|---|---|---|
| PACM | Electrical Wire Insulation and Panels | Throughout | Unknown | Unknown | No |

| HA | Identified ACM | ACM Location(s) | Approx. Qty. | Condition | Friable? (Yes or No) |
|---|---|---|---|---|---|
| PACM | Bathroom Mirror Mastic | Men's and Women's Bathrooms and Locker Rooms | 11 Mirrors | Good | No |

## 2.2 Summary of Identified Non-ACM

Samples collected by **Adelaide** June 6, 2023

| Identified Non-ACM | Sample Location(s) |
|---|---|
| 12x12 Brown/Red Mottled Floor Tile | 2nd Floor |
| Black Floor Mastic | |
| 2x4 Ceiling Tile – Large and Small Holes | |
| Debris on Top of Ceiling Tiles | |
| 2x4 Ceiling Tile – Squiggles and Holes | |
| CMU Mortar | Throughout |
| 4" Black Covebase and Mastic | |
| Yellow Carpet Mastic | 2nd Floor |
| 12x12 Green Mottled Floor Tile | |
| Drywall Ceiling and Joint Compound | Throughout |
| 12x12 Brown and White Mottled Floor Tile | 2nd Floor |
| 12x12 White with Gray Specks Floor Tile | |
| Terrazzo Shower Base | Locker Rooms |
| Sealant at Shower | |
| Exterior Door Glazing Compound | Throughout |
| Exterior Door Sealant | |
| Concrete | |
| Brick Mortar | |
| Exterior Vertical Sealant | |
| Pin Mastic on Ductwork | Boiler Room |
| Wall Tile – Grout and Mudset | Kitchen |
| Floor Tile – Grout and Mudset | |
| Exterior Door Caulk | Throughout |
| Exterior Louver Caulk | |

## 2.3 Summary of Identified LBP

Based on review of the data generated by the Viken Pb200e X-Ray Fluorescence (XRF) Analyzer(s), the following surfaces tested were identified as lead-based, as defined by HUD/EPA (equal to or in excess of 1.0 milligram per square centimeter):

Readings collected by **Adelaide** June 6, 2023

| Location of LBP | LBP Component | Substrate | Color | Condition | Readings (mg/cm2) |
|---|---|---|---|---|---|
| *NO Lead-based Paints identified above HUD/EPA standards of readings collected in reference to the above-mentioned scope of work.* | | | | | |

## 2.4 Summary of Identified PCB-containing Materials

Samples collected by **Adelaide** June 6, 2023

| Sample # | Location / Description | Material Matrix | Color | Substrate | Analytical Result |
|---|---|---|---|---|---|
| *NO PCB-containing materials were identified above the USEPA 40 CFR 761 threshold of 50 ppm(mg/kg) of samples collected/analyzed in reference to the above-mentioned scope of work.* | | | | | |

## 2.5 Observations

ASBESTOS-CONTAINING MATERIALS (ACM)
A visual inspection was performed, and homogeneous material types were established based on appearance, color and texture. The findings presented in this report are based upon reasonably available information and observed site conditions at the time the assessment was performed. The findings and conclusions of this report are not meant to be indicative of future conditions at the site and does not warrant against conditions that were not evident from visual observations or historical information obtained from others.

On June 6, 2023, representative bulk sampling was performed on suspect building materials for laboratory analysis and the following is a summary of installed building materials sampled as per the scope of work provided:

- Ceiling Materials – Ceiling Tiles, Drywall, Joint Compound.
- Wall Materials – CMU Mortar, Brick Mortar, Covebase and Mastic, Grout, Mudset
- Flooring Materials – Floor Tiles, Mastics, Grout, Mudset
- Miscellaneous Materials – Terrazzo, Sealants, Glazing Compound, Concrete, Pin Mastic
- Non-suspect Materials (not sampled) – Fiberglass Insulation, Wood, Glass, Metal.

## 3.0 Asbestos-containing Materials (ACM)

## 3.1 Field Procedures and Analysis Methodology

Guidelines used for the inspection were established by the U.S. Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, DOC# 560/5-85-024 and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA) and Title 12 NYCRR Part 56-5.1. Field information was organized as per the AHERA concept of a

homogeneous area (HA); that is, suspect Asbestos-containing Materials (ACM) with similar age, appearance, and texture were grouped together, sampled and assessed for condition.

For the purposes of this inspection, suspect ACM has been placed in three material categories: thermal, surfacing, and miscellaneous. 1) Surfacing materials are those that are sprayed on, troweled on or otherwise applied to surfaces for fireproofing, acoustical, or decorative purposes (e.g., wall and ceiling plaster). 2) Thermal materials are those applied to heat pipes or other structural components to prevent heat loss or gain or prevent water condensation (e.g., pipe and fitting insulation, duct insulation, boiler flue). 3) Miscellaneous materials are interior building materials on structural components, structural members or fixtures, such as floor and ceiling tiles, etc. and do not include surfacing material or thermal system insulation.

SURFACING MATERIALS

Surfacing materials were grouped into homogeneous sampling areas. A homogeneous area contains material that is uniform in color and texture and appears identical in every other respect. Materials installed at different times belong to different sampling areas. Homogeneous areas were determined on per floor basis.

The following protocol was used for determining the number of samples to be collected:

- At least three bulk samples were collected from each homogeneous area that is 1,000 square feet or less.
- At least five bulk samples were collected from each homogeneous area that is greater than 1,000 square feet but less than or equal to 5,000 square feet.
- At least seven bulk samples were collected from each homogeneous area that is greater than 5,000 square feet.

THERMAL SYSTEM INSULATION (TSI)

The concept of homogeneous sampling areas applies equally well to thermal insulation as to surfacing material. A "typical" building may contain multiple insulated pipe runs from any combination of the following categories:

- Hot water supply and/or return
- Cold water supply
- Chilled water supply
- Steam supply and/or return
- Roof or system drain

The following protocol was used for determining the number of samples to be collected.

- Collect at least three bulk samples from each homogeneous area of thermal system insulation.
- Collect at least one bulk sample from each homogeneous area of patched thermal system insulation if the patched section is less than 6 linear or square feet.
- In a manner sufficient to determine whether the material is ACM or not ACM, collect a minimum of three bulk samples from each homogeneous insulated mechanical system tee, elbow, and valve.

Bulk samples are not collected from any homogeneous area where the certified inspector has determined that the thermal system insulation is fiberglass, foam glass, or rubber.

MISCELLANEOUS MATERIALS

Miscellaneous materials are grouped into different homogeneous areas and at least two bulk samples are collected from each homogeneous area as per the clarification letter from the EPA and the Professional Abatement Contractors of New York, Inc in November of 2007.

Samples collected were analyzed by a laboratory approved under the New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP). Samples were analyzed in the laboratory by Polarized Light Microscopy (PLM), Polarized Light Microscopy-NOB (PLM-NOB) and/or Quantitative Transmission Electron Microscopy (QTEM), as required. Sample collection and laboratory analysis were conducted in compliance with the requirements of Title 12 NYCRR Part 56-5.1, 29 CFR 1926.1101 and standard EPA & OSHA accepted methods. Samples consisting of multiple layers were separated and analyzed independently in the laboratory.

## 3.2 Regulatory Guidelines and Requirements for ACM

FEDERAL

In accordance with the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) established National Emission Standards for hazardous Air Pollutants (NESHAP) to protect the public from exposure to airborne pollutants. Asbestos was one of the air pollutants, which was addressed under the NESHAP 40 CFR Part 61. The purpose of asbestos NESHAP regulations is to protect the public health by minimizing the release of asbestos when facilities, which contain ACM, are being renovated or demolished. EPA is responsible for enforcing regulations related to asbestos during renovations and demolition, however, the CAA allows the EPA to delegate this authority to State and Local Agencies. Even after EPA delegate's responsibility to a state or Local agency, EPA retains the authority to oversee agency performance and to enforce NESHAP regulations as appropriate.

NEW YORK STATE

Asbestos in New York State is regulated under the Labor Law Section 906, Part 56 of Title 12 of the Official Compilation of Codes, Rules, and Regulations. Within the department and for the purpose of the Department of Labor, this part (rule) is known as Industrial Code Rule No. 56 (ICR 56) relating to hazards to the public safety and health, during the removal, encapsulation, or disturbance of friable asbestos, or any handling of ACM that may result in the release of asbestos fiber.

As specified in Title 12 NYCRR Part 56-5.1 (h) and (i), "If the building/structure asbestos survey finds that the portion of the building/structure to be demolished, renovated, remodeled, or have repair work contains ACM, PACM, suspect miscellaneous ACM assumed to be ACM, or asbestos material, which is impacted by the work, the owner or the owner's agent shall conduct, or cause to have conducted, asbestos removal performed by a licensed asbestos abatement contractor in conformance with all standards set forth in this Part. All ACM, PACM, suspect miscellaneous ACM assumed to be ACM, or asbestos material impacted by the demolition, renovation, remodeling or repair project shall be removed as per this Part, prior to access or disturbance by other uncertified trades or personnel. No demolition, renovation, remodeling or repair work shall be commenced by any owner or the owner's agent prior to the completion of the asbestos abatement in accordance with the notification requirements of this Part…All building/structure owners and asbestos abatement contractors on a demolition, renovation, remodeling, or repair project, which includes work covered by this part, shall inform all trades on the work site about PACM, ACM, asbestos material and suspect miscellaneous ACM…Bids may be advertised and contracts

awarded for demolition, remodeling, renovation, or repair work, but no work on the current intermediate portion of the project shall commence on the demolition, renovation, remodeling or repair work by any owner or agent prior to completion of all necessary asbestos abatement work for the current intermediate portion of the entire project, in conformance with all standards set forth in this Part." All work conducted should be in accordance with all legal requirements, including but not limited to U.S. Environmental Protection Agency (EPA) National Emissions Standards for Hazardous Air Pollutants (NESHAP) [40 CFR Part 61], New York State Industrial Code Rule 56 Asbestos Regulations (ICR 56) and Chapter 1 of Title 15 of the Rules of the City of New York Regulations, as applicable. Advance notification of the asbestos project to the USEPA, NYSDOL, and NYCDEP may be required.

CONCEALED ACM

In addition to the ACMs identified at the site, there is a possibility that concealed suspect ACM may exist at the building/structure. As such, if any concealed suspect ACM is encountered during future construction related activities, the work should immediately stop. Prior to resuming the work, the suspect ACM should either be 1) Sampled by an appropriately-certified asbestos professional and submitted to an Approved NYSDOH ELAP laboratory for asbestos analysis or 2) Presumed to be ACM (PACM) and removed by a licensed asbestos abatement contractor for disposal in accordance with all applicable regulations.

## 4.0 Lead-based Paint (LBP)

### 4.1 Applicable Standards/Guidelines for LBP

The U.S Department of Housing and Urban Development (HUD) defines the action level for lead-based paint as a lead content equal to or greater than 1.0 milligrams of lead per square centimeter of painted surface (≥1.0 mg Pb/cm$^2$) when measured with an XRF analyzer or 0.5 percent by weight when chemically tested. This definition is described in the HUD "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing, September 1990". The state of New York's definition of the action level for lead-based paint is consistent with the level established by HUD.

Please note that although the HUD defines lead-based paint as paint having lead concentrations equal or greater than 1.0 mg/cm2, the Occupational Safety and Health Administration (OSHA) considers any concentration of lead in paint to be lead-containing paint. Regardless of the lead concentrations in paint, the contractor shall comply with 29 CFR 1926.62, OSHA regulations, and take precautionary measures for dust control and limit employee exposure to lead dust during the renovations.

Painted surfaces that would be impacted by planned activities such as drilling, cutting, scrapping, etc. and create dust should be properly addressed by following safe work practices, good housekeeping procedures and/or following proper abatement procedures. Grinding and sanding of paint without HEPA filter exhaust, open flame gas fired torch, unconfined abrasive blasting, and chemical strippers containing methylene chloride or other human carcinogenic chemicals are not recommended.

The Federal Resource Conservation and Recovery Act (RCRA) regulation governs the handling, transportation, and disposal of hazardous materials. Every demolition/renovation debris generator has the responsibility to determine whether the debris exhibits one or more of the characteristic wastes listed in subpart C of 40 CFR Part 261. In the case of demolition debris, lead in LBP is a characteristic waste, and therefore, it is the responsibility of the renovation/demolition debris generator to characterize the waste

prior to its disposal and, if found to be hazardous waste as defined by Federal Statutes, to be properly handled and disposed.

Metal objects painted with LBP are exempt from disposal regulations applicable to lead, provided they are properly recycled. All metal objects that are painted with LBP should be sent to a certified recycling facility.

This report is not Lead-based Paint abatement specification and should not be used for specifying removal methods or techniques.

### 4.2 XRF Information

Viken Pb200e X-Ray Fluorescence (XRF) Analyzer(s) were used to survey the building/structure or portion thereof identified to be demolished, renovated, remodeled or repaired for the presence of LBP. The Viken Pb200e XRF Analyzer(s) are using a sealed source of Co-57 with 6mCi sources, meeting HUD requirements for the analysis of paint films. During the analysis, the intensity of the x-rays is converted by the instrument's internal software into an estimate of the concentration of lead in the substance being analyzed. The results are interpreted as concentrations of lead in milligrams per square centimeter. This device is a field-screening tool, used to collect multiple readings in a short period of time. The method of measurement is based on spectrometric analysis of lead x-ray fluorescence within a controlled depth of interrogation. The reading is an estimate of lead content in all layers of paint. The results are displayed in milligrams per square centimeter (mg/cm2). The device(s) used for this inspection were the Viken Pb200e X-Ray Fluorescence (XRF) Analyzer(s) Serial Number 2104, Source date 4/1/23, Serial number 2231, Source date 5/15/22, Serial number 2595, Source date 2/15/23 and/or Serial number 2901, Source date 2/15/23.

## 5.0 PolyChlorinated Biphenyls (PCB)

### 5.1 Background and Protocol for PCBs

PolyChlorinated Biphenyls (PCB) are a group of manmade chemicals. PCBs were widely used in building materials and electrical products in the past. The U.S. Environmental Protection Agency banned the manufacturing and certain uses of PCBs in 1978, but buildings constructed or renovated between 1950 and 1978 may still have building materials and electrical products that contain PCBs. Examples of products that may contain PCBs include caulk, paint, glues, plastics, fluorescent lighting ballasts, transformers and capacitors.

PCBs are currently prohibited from being used in caulk and other commodities (U.S. EPA, 40 CFR 761). However, prior to 1977, PCBs were present in some caulking materials used in the construction of schools and other buildings. Studies have shown that concentrations of PCB can exceed 1% (10,000 ppm) by weight in some caulk materials. An investigation of 24 buildings in the Greater Boston Area revealed that one-third of the buildings tested (8 of 24) contained caulking materials with polychlorinated biphenyl (PCB) content exceeding 50 ppm by weight with an average concentration of 15,600 ppm or 1.5% (Herrick et al., 2004). These buildings included schools and other public buildings.

The U.S. EPA regulates the disposal of caulk, as well as soil and other materials contaminated with PCBs from caulk, if the concentration of PCBs exceeds 50 ppm. Such materials must be disposed at an appropriate approved or permitted facility.

U.S. EPA regulation 40 CFR 761 defines "PCB remediation waste" to include contaminated soil, and specifies a clean-up level of <1ppm without further conditions for unrestricted use in "high occupancy areas" (i.e., areas where individuals may be present for 335 hours or more per year). PCB caulk is defined as a PCB bulk product waste, and its disposal is subject to U.S. EPA regulations under the Toxic Substances Control Act (40 CFR761.62).

This protocol has been developed in consultation with the New York State Department of Health, Division of Environmental Health Assessment, Bureau of Toxic Substance Assessment to address concerns about properly managing caulk containing PCBs that will be disturbed during building renovation and maintenance.

CAULK SAMPLE COLLECTION

Buildings constructed or renovated between 1950 and 1977 have a potential to contain PCBs in existing caulk. Representative samples of caulking materials from these buildings prior to renovation or demolition work should be tested to determine whether the caulk is contaminated with PCBs. Professional judgement should be used to design the sampling plan for characterizing caulk throughout the building. The consultant should pay particular attention to construction and maintenance records and to the appearance of caulking materials (likenesses and differences). Samples should be taken from window frames or expansion joints that have not been repaired or replaced since 1977. Depending on specific information provided in the workplan developed by the project manager, such as window placement, compositing of some caulk samples might be appropriate. Caulk from different time periods or that have a different appearance should not be composited together.

It is important to note that caulk used during the time period of interest may also contain asbestos or lead. Therefore, the work plan should include testing, handling and disposal requirements appropriate for such regulated materials.

SOIL SAMPLE COLLECTION

Buildings constructed or renovated between 1950 and 1977, which have undergone further renovation after 1977, may have residual PCB contamination in adjacent soils. An adequate representation of surface soils should be tested to assess the potential for residual PCB contamination.

When designing a representative soil sampling plan, the likelihood of soil contamination from deteriorated or deteriorating caulk should be considered. Caulk that has in the past dried out and fallen to the ground is the most important source of soil contamination. Thus, sampling should include soil beneath windows where caulk has obviously deteriorated or been replaced because of previous deterioration. Areas subject to the stress of sun and prevailing weather (typically the southern and western side of each structure) should be included for sampling. These samples would provide a conservative evaluation of soil conditions due to an increased potential for material failure, possibly resulting in contamination of soil. Also, if earlier renovation or demolition work may have stockpiled potentially contaminated caulk in other school areas, the school should consider having soils in those areas tested as well.

Soil sampling should focus on areas of the building where ”banks” or “gangs” of windows exist/were replaced and areas of the structure where large expansion joints are located. This would provide a conservative evaluation of potential soil contamination and permit efficient sampling.

Any obvious pieces of caulk encountered during the collection of soil samples should be removed from the soil, categorized (with respect to location and depth) and treated as a separate potential sample.

Depth – At each soil sample location, soil should be collected in depth intervals of 0-2 inches, 2-6 inches and 6-12 inches. The surface soil sample (0-2 inches) should be collected from below the vegetative surface layer, if present.

Distance from Structure – Samples should be collected within 1 foot of the building and 5 feet from the building.

Samples should be collected in a manner that prevents cross-contamination. Augers or driven core samplers should be avoided, as any caulk caught on the edge of this type of tool could be driven to lower intervals. Using a designated trowel for each sample location and each interval of depth is encouraged. If the sampling tool is field cleaned between samples, do so in a manner that does not add solvent contamination to the environment.

NOTE
Sampling was performed by **Adelaide** in compliance with protocols outlined by New York State Education Department (NYSED) and USEPA 40 CFR 761, as described above. Only one sample per homogeneous area was required for analysis of suspect PCB-containing materials. Bulk sample(s) were properly packaged and forwarded, with associated Chain of Custody (COC), to York Analytical Laboratories, Inc., for analysis using method SW846-3550B/8082. The analysis will determine if the suspect material will be classified as PCB-containing at or above 50 ppm or mg/kg as per the EPA regulations. Copies of the analytical results are contained within attached appendices for review.

## 6.0 General Discussion

All construction personnel as well as individuals who have access to locations where asbestos-containing materials (ACM), lead-based paints (LBP) and/or polychlorinated biphenyls (PCB) exists should be informed of its presence and the proper work practices in these areas. Conspicuous labeling of all ACM is suggested to ensure personnel is adequately informed. Personnel should be informed not to rest, lean or store material or equipment on or near these surfaces and not to cut, saw, drill, sand or disturb ACM. All removal, disturbance, and repair of ACM should be performed in compliance with Title 12 NYCRR Part 56 by persons properly trained to handle ACM. Facility custodial and maintenance personnel should receive training commensurate with their work activities; as defined in 29 CFR 1910.1001.

## 7.0 Disclaimers

**Adelaide** certifies that the information contained within this report is based solely upon site observations and the results of laboratory analysis for samples collected during this survey/assessment. These observations and results are time dependent, subject to changing site conditions and revisions to Federal, State and Local regulations. **Adelaide** warrants that these findings have been promulgated after being prepared in general accordance with generally accepted practices in the abatement industries. **Adelaide** also recognizes that inspection laboratory data is not usually sufficient to make all abatement and management decisions. No other warranties are expressed or implied.

The materials sampled, as part of this survey, were limited to building materials potential affected by the provided scope of work only. All building materials outside the scope of work that have the potential to be disturbed, impacted, or if the scope of work is to change, are to be presumed asbestos-containing materials (PACM). Identified PACM **must** either be sampled by a licensed NYS Asbestos Inspector and/or abated/removed and disposed of by a licensed NYS Asbestos Abatement Contractor.

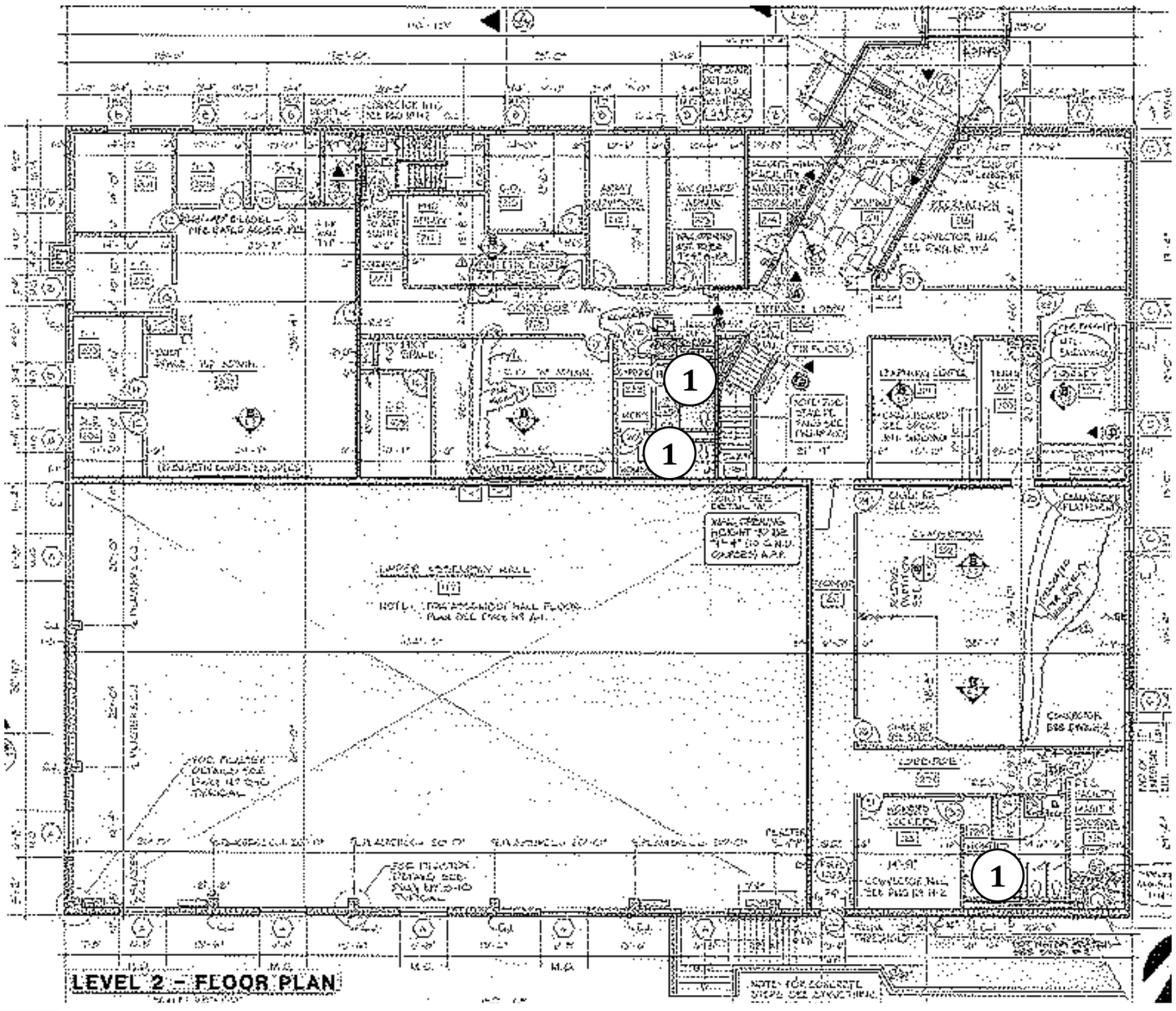
Due to the potential for concealed Asbestos-containing Materials (ACM) and/or other regulated materials, this report should not be construed to represent all ACM and/or regulated materials within the site(s). All quantities of ACM and/or other regulated materials identified, and all dimensions listed within this report are approximate and should be verified On-site.

This report is generated for the exclusive use of the client and is not designed to serve as a specification for abatement. The owner is strongly encouraged to contract with a consultant having a current Asbestos Project Designer Certificate as issued by New York State Department of Labor for the preparation of contract specifications, work plans, and/or drawings prior to requesting bids for the abatement or removal of the materials identified in this report.

NYSDOH issued an Interim Guidance Letter, on July 9, 2013, which outlined the approved testing alternative for materials containing vermiculite. Specifically, "...Where TSI, surfacing materials, or other PACM or miscellaneous suspect ACM contain greater than 10% vermiculite, Item 198.6 may be used to evaluate the asbestos content of the material; provided, however, that any test results using this method must be reported with the following conspicuous disclaimer: *"This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."* On July 22, 2014, NYSDOH issued a Regulatory Guidance Letter outlining the new approved analytical methods for testing sprayed-on fireproofing (SOFP) that contains vermiculite. NYSDOH authorized the use of ***two*** analytical methods to evaluate the asbestos content of SOFP that contains vermiculite. As per NYSDOH Guidelines, *"After October 31, 2014, one of the new methods **must** be used to test SOF-V, regardless of the percent of vermiculite."* On May 6, 2016, NYSDOH issued a Regulatory Guidance Letter outlining the new protocol for analytical procedure for surfacing materials (ie. plaster, stucco, etc.) that contain vermiculite. As per NYSDOH Guidelines, "*The original July 2013 and July 2014 letters addressed SOF-V only. Both NYS DOH's Item 198.8 and RJ Lee Group Method 055 shall now be applied to test for vermiculite in other Surfacing Material (SM) as defined in 12 NYCRR Part 56 (NYS Industrial Code Rule 56).*"

# APPENDIX A

# ACM LOCATION MAP(S)




| ACM LEGEND: (see report for details) | |
|---|---|
| 1 | Assumed Mirror Mastic |
| **PACM** | Electrical Wire and Panels Throughout |

Second Floor Plans - Asbestos Locations

**Drawing Not to Scale**

Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
Fax: (845) 278-7750

**CLIENT:**
**Greg Springer**
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**(Client) Project #**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 6/13/2023

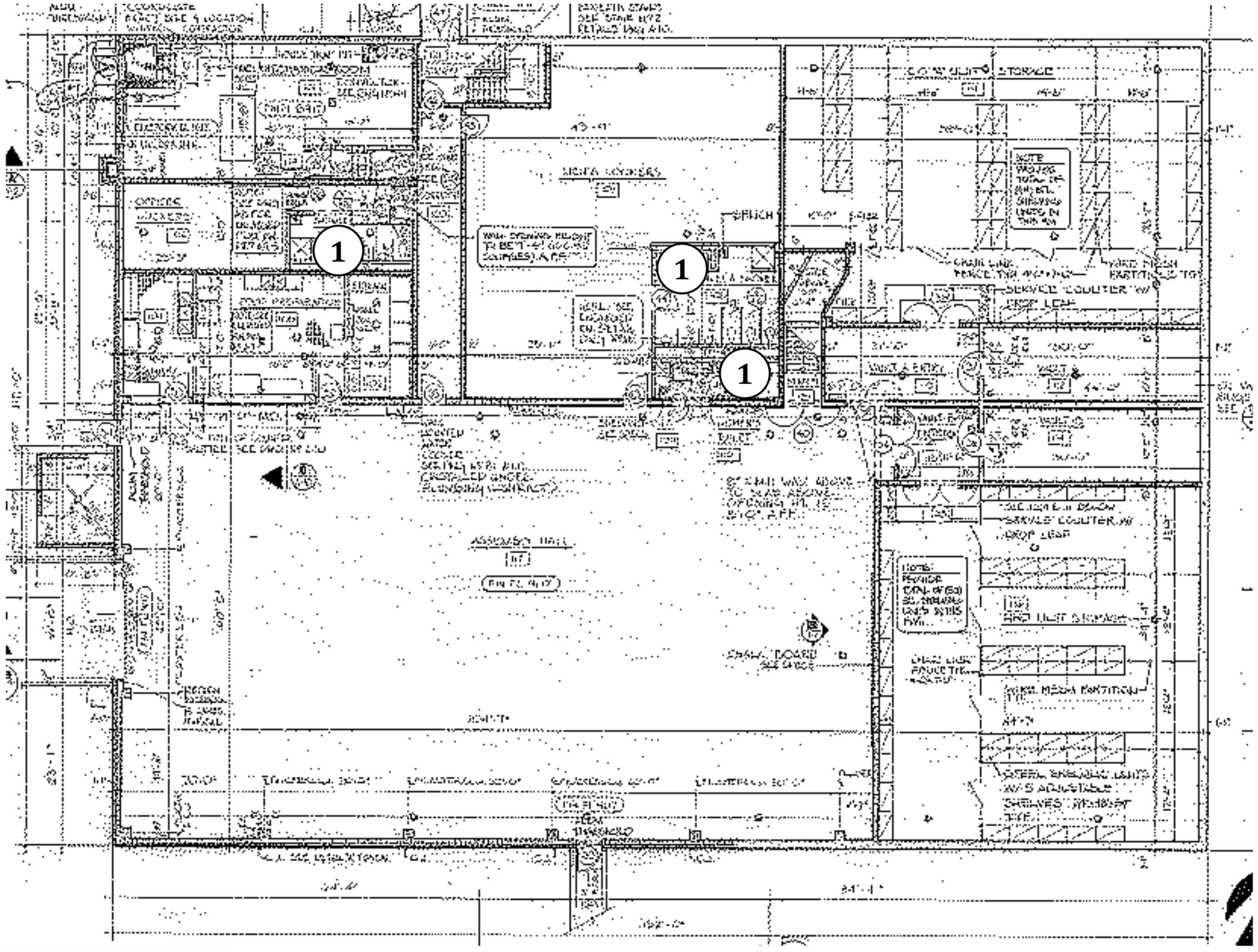
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**ISSUED FOR:**
Asbestos, Lead & PCB Survey

**ADELAIDE PROJECT NO.:**
BA:23168.00-IN

**DRAWING PREPARED BY:**
JPF

**ASB-01**




| ACM LEGEND: (see report for details) | |
|---|---|
| 1 | Assumed Mirror Mastic |
| PACM | Electrical Wire and Panels Throughout |

First Floor Plans - Asbestos Locations

**Drawing Not to Scale**

Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
Fax: (845) 278-7750

**CLIENT:**
**Greg Springer**
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**(Client) Project #**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 6/13/2023

**DRAWING VERSION:** No. 1

**ISSUED FOR:**
Asbestos, Lead & PCB Survey

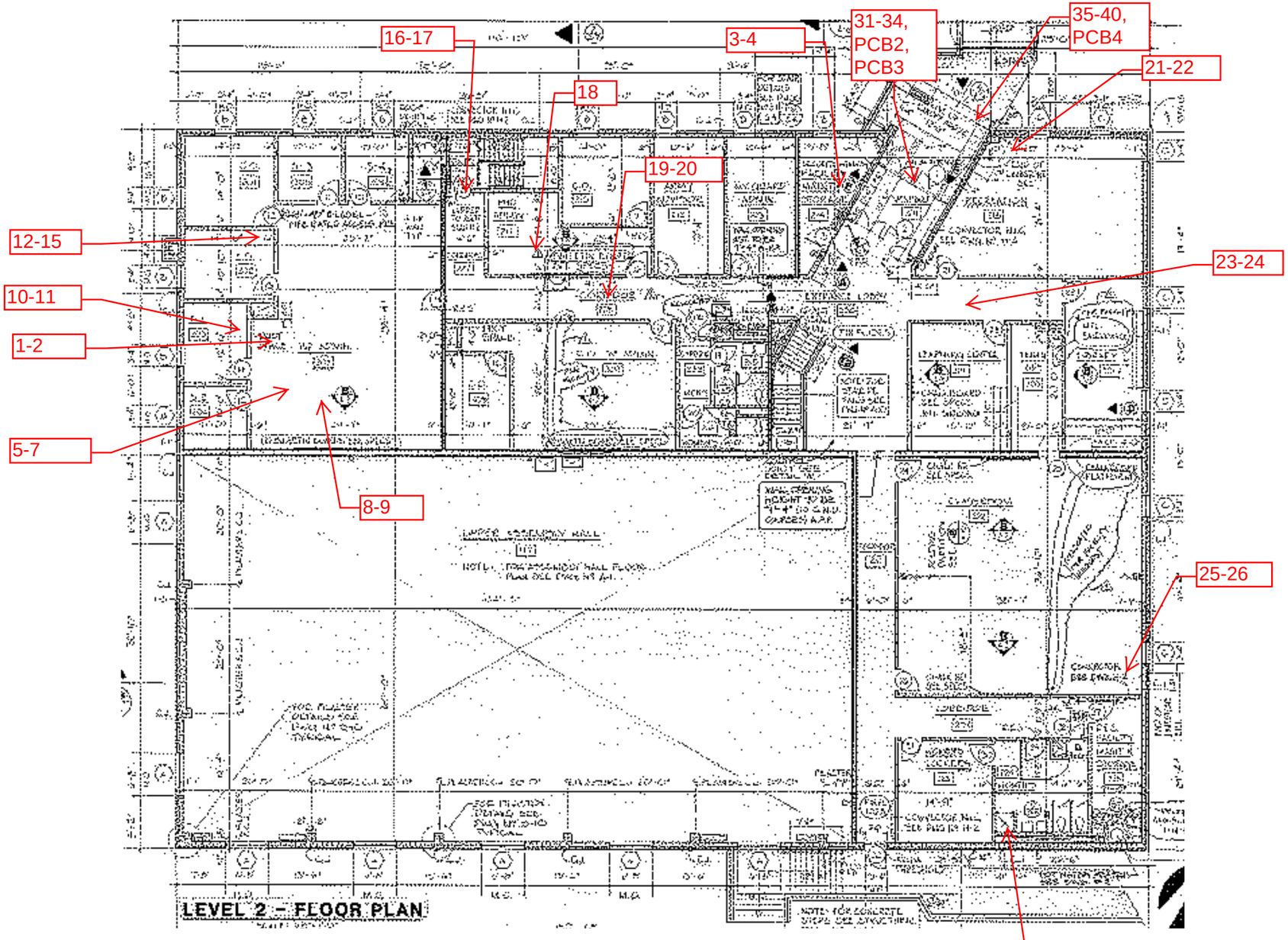
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BA:23168.00-IN

**DRAWING PREPARED BY:**
JPF

**ASB-02**

# APPENDIX B

# SAMPLE LOCATION MAP(S)




Second Floor Plans - Sample Locations

**Drawing Not to Scale**

Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
Fax: (845) 278-7750

**CLIENT:**
**Greg Springer**
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**(Client) Project #**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 6/13/2023

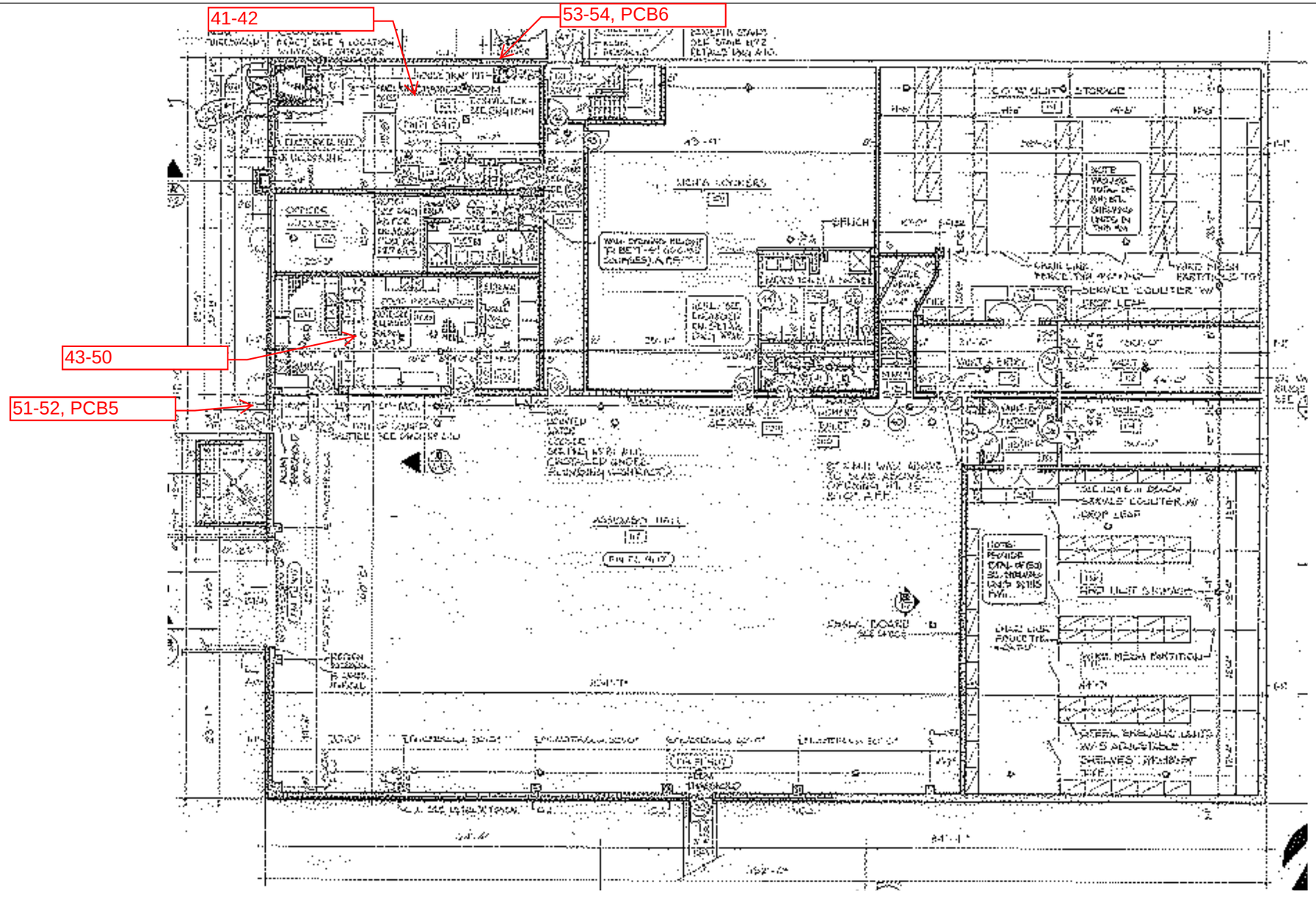
**DRAWING VERSION:** No. 1

**ISSUED FOR:**
Asbestos, Lead & PCB Survey

**ADELAIDE PROJECT NO.:**
BA:23168.00-IN

**DRAWING PREPARED BY:**
JPF

**SL-01**




First Floor Plans - Sample Locations

**Drawing Not to Scale**

Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
Fax: (845) 278-7750

**CLIENT:**
**Greg Springer**
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**(Client) Project #**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 6/13/2023

**DRAWING VERSION:** No. 1

**ISSUED FOR:**
Asbestos, Lead & PCB Survey

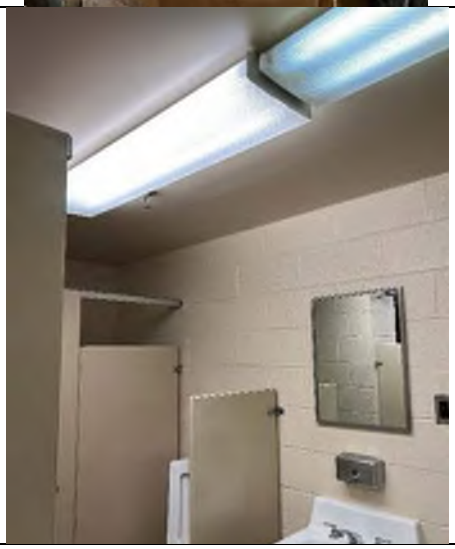
**ADELAIDE PROJECT NO.:**
BA:23168.00-IN

**DRAWING PREPARED BY:**
JPF

**SL-02**

# APPENDIX C

# ACM PHOTO(S)

| | |
|---|---|
| PACM<br>Electrical Wire Insulation and Panels |  |
| PACM<br>Electrical Wire Insulation and Panels |  |
| PACM<br>Mirror Mastic |  |

# APPENDIX D

# ASBESTOS ANALYTICAL RESULTS

# Table I
## Summary of Bulk Asbestos Analysis Results

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 01 | 1 | 1 | 0.226 | 17.4 | 81.7 | 0.9 | NAD | NAD |
| Location: 2nd Floor - Room 207 - 12 x 12 F.T. - Brown / Red Mottled | | | | | | | | |
| 02 | 2 | 1 | 0.195 | 16.3 | 82.6 | 1.0 | NAD | NAD |
| Location: 2nd Floor - Room 207 - 12 x 12 F.T. - Brown / Red Mottled | | | | | | | | |
| 03 | 3 | 2 | 0.142 | 79.8 | 15.9 | 4.3 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 12 x 12 F.T. - Black Mastic | | | | | | | | |
| 04 | 4 | 2 | 0.157 | 80.5 | 13.2 | 6.3 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 12 x 12 F.T. - Black Mastic | | | | | | | | |
| 05 | 5 | 3 | 0.188 | 24.9 | 12.0 | 63.1 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 2 x 4 C.T. - Large + Small Holes | | | | | | | | |
| 06 | 6 | 3 | 0.132 | 26.0 | 22.1 | 51.9 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 2 x 4 C.T. - Large + Small Holes | | | | | | | | |
| 07 | 7 | 4 | 0.227 | 55.4 | 18.6 | 26.0 | NAD | NAD |
| Location: 2nd Floor - Room 214 - Debris On Top Of C.T. | | | | | | | | |
| 08 | 8 | 5 | 0.137 | 27.2 | 25.5 | 47.3 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 2 x 4 C.T. - Squiggles + Holes | | | | | | | | |
| 09 | 9 | 5 | 0.159 | 28.1 | 21.5 | 50.4 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 2 x 4 C.T. - Squiggles + Holes | | | | | | | | |
| 10 | 10 | 6 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Room 214 - CMU Mortar | | | | | | | | |
| 11 | 11 | 6 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Room 214 - CMU Mortar | | | | | | | | |
| 12L1 | 12 | 7 | 0.222 | 62.5 | 37.0 | 0.5 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Cove Base - 4" Black | | | | | | | | |
| 12L2 | 12 | 7 | 0.222 | 45.9 | 49.1 | 5.0 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Cove Base - 4" Black Mastic | | | | | | | | |
| 13L1 | 13 | 7 | 0.212 | 62.4 | 37.1 | 0.5 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Cove Base - 4" Black | | | | | | | | |
| 13L2 | 13 | 7 | 0.282 | 45.7 | 46.4 | 7.9 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Cove Base - 4" Black Mastic | | | | | | | | |
| 14 | 14 | 8 | 0.234 | 57.9 | 4.8 | 37.4 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Yellow Carpet Mastic | | | | | | | | |

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# Table I
## Summary of Bulk Asbestos Analysis Results

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 15 | 15 | 8 | 0.161 | 57.4 | 24.3 | 18.3 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Yellow Carpet Mastic | | | | | | | | |
| 16 | 16 | 9 | 0.265 | 17.6 | 79.9 | 2.5 | NAD | NAD |
| Location: 2nd Floor - Hallway - 12 x 12 F.T. - Green Mottled | | | | | | | | |
| 17 | 17 | 9 | 0.280 | 16.9 | 82.3 | 0.8 | NAD | NAD |
| Location: 2nd Floor - Hallway - 12 x 12 F.T. - Green Mottled | | | | | | | | |
| 18 | 18 | 10 | 0.423 | 26.8 | 11.1 | 62.1 | NAD | NAD |
| Location: 2nd Floor - Room 211 - Debris Above C.T. | | | | | | | | |
| 19 | 19 | 11 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Hallway - Drywall Ceiling | | | | | | | | |
| 20 | 20 | 11 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Hallway - Drywall Ceiling | | | | | | | | |
| 21 | 21 | 12 | 0.239 | 20.8 | 61.7 | 17.5 | NAD | NAD |
| Location: 2nd Floor - Room 218 - 12 x 12 F.T. - Brown + White Mottled | | | | | | | | |
| 22 | 22 | 12 | 0.260 | 19.8 | 59.2 | 21.0 | NAD | NAD |
| Location: 2nd Floor - Room 218 - 12 x 12 F.T. - Brown + White Mottled | | | | | | | | |
| 23 | 23 | 13 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Hallway - Joint Compound | | | | | | | | |
| 24 | 24 | 13 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Hallway - Joint Compound | | | | | | | | |
| 25 | 25 | 14 | 0.208 | 19.6 | 72.6 | 7.8 | NAD | NAD |
| Location: 2nd Floor - Room 222 - 12 x 12 F.T. - White W/ Gray Specks | | | | | | | | |
| 26 | 26 | 14 | 0.244 | 20.7 | 60.9 | 18.5 | NAD | NAD |
| Location: 2nd Floor - Room 222 - 12 x 12 F.T. - White W/ Gray Specks | | | | | | | | |
| 27 | 27 | 15 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Rm. 223 - Womens Locker - Terrazzo Shower Base | | | | | | | | |
| 28 | 28 | 15 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Rm. 223 - Womens Locker - Terrazzo Shower Base | | | | | | | | |
| 29 | 29 | 16 | 0.141 | 32.0 | 65.3 | 2.7 | NAD | NAD |
| Location: 2nd Floor - Rm. 223 - Womens Locker - Sealant At Shower | | | | | | | | |
| 30 | 30 | 16 | 0.140 | 30.7 | 67.0 | 2.4 | NAD | NAD |
| Location: 2nd Floor - Rm. 223 - Womens Locker - Sealant At Shower | | | | | | | | |

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# Table I
## Summary of Bulk Asbestos Analysis Results

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 31 | 31 | 17 | 0.217 | 29.3 | 67.7 | 3.0 | NAD | NAD |
| Location: 2nd Floor - Entrance Doors - Glazing Compound | | | | | | | | |
| 32 | 32 | 17 | 0.237 | 29.2 | 67.2 | 3.6 | NAD | NAD |
| Location: 2nd Floor - Entrance Doors - Glazing Compound | | | | | | | | |
| 33 | 33 | 18 | 0.187 | 44.1 | 53.5 | 2.4 | NAD | NAD |
| Location: 2nd Floor - Entrance Doors - Exterior Sealant | | | | | | | | |
| 34 | 34 | 18 | 0.157 | 44.9 | 52.6 | 2.6 | NAD | NAD |
| Location: 2nd Floor - Entrance Doors - Exterior Sealant | | | | | | | | |
| 35 | 35 | 19 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Concrete | | | | | | | | |
| 36 | 36 | 19 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Concrete | | | | | | | | |
| 37 | 37 | 20 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Brick Mortar | | | | | | | | |
| 38 | 38 | 20 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Brick Mortar | | | | | | | | |
| 39 | 39 | 21 | 0.171 | 65.1 | 26.9 | 8.0 | NAD | NAD |
| Location: 2nd Floor - Exterior Vertical Sealant | | | | | | | | |
| 40 | 40 | 21 | 0.184 | 65.2 | 25.9 | 8.9 | NAD | NAD |
| Location: 2nd Floor - Exterior Vertical Sealant | | | | | | | | |
| 41 | 41 | 22 | 0.124 | 72.9 | 11.4 | 15.7 | NAD | NAD |
| Location: 1st Floor - Boiler Room - Pin Mastic On Duct | | | | | | | | |
| 42 | 42 | 22 | 0.182 | 73.9 | 8.4 | 17.7 | NAD | NAD |
| Location: 1st Floor - Boiler Room - Pin Mastic On Duct | | | | | | | | |
| 43 | 43 | 23 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Wall Tile - Grout | | | | | | | | |
| 44 | 44 | 23 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Wall Tile - Grout | | | | | | | | |
| 45 | 45 | 24 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Wall Tile - Mudset | | | | | | | | |
| 46 | 46 | 24 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Wall Tile - Mudset | | | | | | | | |

See Reporting notes on last page

# Table I
## Summary of Bulk Asbestos Analysis Results

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 47 | 47 | 25 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Floor Tile - Grout | | | | | | | | |
| 48 | 48 | 25 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Floor Tile - Grout | | | | | | | | |
| 49 | 49 | 26 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Floor Tile - Mudset | | | | | | | | |
| 50 | 50 | 26 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Floor Tile - Mudset | | | | | | | | |
| 51 | 51 | 27 | 0.187 | 62.0 | 27.5 | 10.6 | NAD | NAD |
| Location: 1st Floor - Exterior - Door Caulk | | | | | | | | |
| 52 | 52 | 27 | 0.206 | 64.6 | 22.3 | 13.1 | NAD | NAD |
| Location: 1st Floor - Exterior - Door Caulk | | | | | | | | |
| 53 | 53 | 28 | 0.170 | 60.7 | 11.7 | 27.6 | NAD | NAD |
| Location: 1st Floor - Exterior - Louver Caulk | | | | | | | | |
| 54 | 54 | 28 | 0.103 | 59.9 | 5.8 | 34.2 | NAD | NAD |
| Location: 1st Floor - Exterior - Louver Caulk | | | | | | | | |

Analyzed by: Gabriella Morozov 

Date: 6/8/2023

Reviewed by: Gabriella Morozov 

**Quantitative Analysis (Semi/Full); Bulk Asbestos Analysis - PLM by Appd E to Subpt E, 40 CFR 763 or NYSDOH ELAP 198.1 for New York friable samples or NYSDOH ELAP 198.6 for New York NOB samples; TEM (Semi/Full) by EPA 600/R-93/116 (or NYSDOH ELAP 198.4; for New York samples). Analysis using Hitachi, Model H7000-Noran 7 System, Microscope, Serial #: 747-05-06. NAD = no asbestos detected during a quantitative analysis; NA = not analyzed; Trace = <1%; (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only; Qualitative Analysis: Asbestos analysis results of "Present" or "NVA = No Visible Asbestos" represents results for Qualitative PLM or TEM Analysis only (no accreditation coverage available from any regulatory agency for qualitative analyses): NVLAP (PLM) 200546-0, NYSDOH ELAP Lab 11480, NJ Lab ID #NY031.

Warning Note: PLM limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris for which PLM evaluation is recommended (i.e. soils and other heterogenous materials).

**AmeriSci New York**
117 EAST 30TH ST.
NEW YORK, NY 10016
TEL: (212) 679-8600 • FAX: (212) 679-3114

# PLM Bulk Asbestos Report

Adelaide Environmental Health
Attn: John Soter
1511 Rte. 22, Suite C24

Brewster, NY 10509

**Date Received** 06/07/23
**Date Examined** 06/08/23
**ELAP #** 11480

**AmeriSci Job #** 223061619
**P.O. #**
**Page** 1 **of** 10

**RE:** OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 1 | 223061619-01 | ***No*** | NAD |
| 1 | **Location:** 2nd Floor - Room 207 - 12 x 12 F.T. - Brown / Red Mottled | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Brown/Red, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.9% | | | |
| 2 | 223061619-02 | ***No*** | NAD |
| 1 | **Location:** 2nd Floor - Room 207 - 12 x 12 F.T. - Brown / Red Mottled | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Brown/Red, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 1% | | | |
| 3 | 223061619-03 | ***No*** | NAD |
| 2 | **Location:** 2nd Floor - Room 214 - 12 x 12 F.T. - Black Mastic | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 4.3% | | | |
| 4 | 223061619-04 | ***No*** | NAD |
| 2 | **Location:** 2nd Floor - Room 214 - 12 x 12 F.T. - Black Mastic | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 6.3% | | | |
| 5 | 223061619-05 | ***No*** | NAD |
| 3 | **Location:** 2nd Floor - Room 214 - 2 x 4 C.T. - Large + Small Holes | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 63.1% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 6<br>3 | 223061619-06<br>**Location:** 2nd Floor - Room 214 - 2 x 4 C.T. - Large + Small Holes | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 51.9% | | | |
| 7<br>4 | 223061619-07<br>**Location:** 2nd Floor - Room 214 - Debris On Top Of C.T. | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Black, Heterogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 26% | | | |
| 8<br>5 | 223061619-08<br>**Location:** 2nd Floor - Room 214 - 2 x 4 C.T. - Squiggles + Holes | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 47.3% | | | |
| 9<br>5 | 223061619-09<br>**Location:** 2nd Floor - Room 214 - 2 x 4 C.T. - Squiggles + Holes | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 50.4% | | | |
| 10<br>6 | 223061619-10<br>**Location:** 2nd Floor - Room 214 - CMU Mortar | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 11<br>6 | 223061619-11<br>**Location:** 2nd Floor - Room 214 - CMU Mortar | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 12<br>7 | 223061619-12L1<br>**Location:** 2nd Floor - Room 202 - Cove Base - 4" Black | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.5% | | | |
| 12<br>7 | 223061619-12L2<br>**Location:** 2nd Floor - Room 202 - Cove Base - 4" Black Mastic | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Cream, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 5% | | | |
| 13<br>7 | 223061619-13L1<br>**Location:** 2nd Floor - Room 202 - Cove Base - 4" Black | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.5% | | | |
| 13<br>7 | 223061619-13L2<br>**Location:** 2nd Floor - Room 202 - Cove Base - 4" Black Mastic | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Cream, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 7.9% | | | |
| 14<br>8 | 223061619-14<br>**Location:** 2nd Floor - Room 202 - Yellow Carpet Mastic | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 37.4% | | | |
| 15<br>8 | 223061619-15<br>**Location:** 2nd Floor - Room 202 - Yellow Carpet Mastic | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 18.3% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 16<br>9 | 223061619-16<br>**Location:** 2nd Floor - Hallway - 12 x 12 F.T. - Green Mottled | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Green, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.5% | | | |
| 17<br>9 | 223061619-17<br>**Location:** 2nd Floor - Hallway - 12 x 12 F.T. - Green Mottled | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Green, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.8% | | | |
| 18<br>10 | 223061619-18<br>**Location:** 2nd Floor - Room 211 - Debris Above C.T. | ***No*** | NAD [1]<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Black, Heterogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 62.1% | | | |
| 19<br>11 | 223061619-19<br>**Location:** 2nd Floor - Hallway - Drywall Ceiling | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray/Brown, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 15%, Non-fibrous 85% | | | |
| 20<br>11 | 223061619-20<br>**Location:** 2nd Floor - Hallway - Drywall Ceiling | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray/Brown, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 15%, Non-fibrous 85% | | | |
| 21<br>12 | 223061619-21<br>**Location:** 2nd Floor - Room 218 - 12 x 12 F.T. - Brown + White Mottled | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Brown, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 17.5% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 22<br>12 | 223061619-22<br>**Location:** 2nd Floor - Room 218 - 12 x 12 F.T. - Brown + White Mottled | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Brown, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 21% | | | |
| 23<br>13 | 223061619-23<br>**Location:** 2nd Floor - Hallway - Joint Compound | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 24<br>13 | 223061619-24<br>**Location:** 2nd Floor - Hallway - Joint Compound | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 25<br>14 | 223061619-25<br>**Location:** 2nd Floor - Room 222 - 12 x 12 F.T. - White W/ Gray Specks | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 7.8% | | | |
| 26<br>14 | 223061619-26<br>**Location:** 2nd Floor - Room 222 - 12 x 12 F.T. - White W/ Gray Specks | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 18.5% | | | |
| 27<br>15 | 223061619-27<br>**Location:** 2nd Floor - Rm. 223 - Womens Locker - Terrazzo Shower Base | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White/Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 28<br>15 | 223061619-28<br>**Location:** 2nd Floor - Rm. 223 - Womens Locker - Terrazzo Shower Base | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White/Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 29<br>16 | 223061619-29<br>**Location:** 2nd Floor - Rm. 223 - Womens Locker - Sealant At Shower | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.7% | | | |
| 30<br>16 | 223061619-30<br>**Location:** 2nd Floor - Rm. 223 - Womens Locker - Sealant At Shower | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.4% | | | |
| 31<br>17 | 223061619-31<br>**Location:** 2nd Floor - Entrance Doors - Glazing Compound | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 3% | | | |
| 32<br>17 | 223061619-32<br>**Location:** 2nd Floor - Entrance Doors - Glazing Compound | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 3.6% | | | |
| 33<br>18 | 223061619-33<br>**Location:** 2nd Floor - Entrance Doors - Exterior Sealant | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.4% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 34<br>18 | 223061619-34<br>**Location:** 2nd Floor - Entrance Doors - Exterior Sealant | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.6% | | | |
| 35<br>19 | 223061619-35<br>**Location:** 2nd Floor - Concrete | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 36<br>19 | 223061619-36<br>**Location:** 2nd Floor - Concrete | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 37<br>20 | 223061619-37<br>**Location:** 2nd Floor - Brick Mortar | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 38<br>20 | 223061619-38<br>**Location:** 2nd Floor - Brick Mortar | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 39<br>21 | 223061619-39<br>**Location:** 2nd Floor - Exterior Vertical Sealant | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 8% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 40<br>21 | 223061619-40<br>**Location:** 2nd Floor - Exterior Vertical Sealant | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 8.9% | | | |
| 41<br>22 | 223061619-41<br>**Location:** 1st Floor - Boiler Room - Pin Mastic On Duct | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Dark Brown, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 15.7% | | | |
| 42<br>22 | 223061619-42<br>**Location:** 1st Floor - Boiler Room - Pin Mastic On Duct | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Dark Brown, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 17.7% | | | |
| 43<br>23 | 223061619-43<br>**Location:** 1st Floor - Kitchen - Wall Tile - Grout | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 44<br>23 | 223061619-44<br>**Location:** 1st Floor - Kitchen - Wall Tile - Grout | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 45<br>24 | 223061619-45<br>**Location:** 1st Floor - Kitchen - Wall Tile - Mudset | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 46<br>24 | 223061619-46<br>**Location:** 1st Floor - Kitchen - Wall Tile - Mudset | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 47<br>25 | 223061619-47<br>**Location:** 1st Floor - Kitchen - Floor Tile - Grout | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 48<br>25 | 223061619-48<br>**Location:** 1st Floor - Kitchen - Floor Tile - Grout | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 49<br>26 | 223061619-49<br>**Location:** 1st Floor - Kitchen - Floor Tile - Mudset | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 50<br>26 | 223061619-50<br>**Location:** 1st Floor - Kitchen - Floor Tile - Mudset | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 51<br>27 | 223061619-51<br>**Location:** 1st Floor - Exterior - Door Caulk | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 10.6% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 52<br>27 | 223061619-52<br>**Location:** 1st Floor - Exterior - Door Caulk | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 13.1% | | | |
| 53<br>28 | 223061619-53<br>**Location:** 1st Floor - Exterior - Louver Caulk | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 27.6% | | | |
| 54<br>28 | 223061619-54<br>**Location:** 1st Floor - Exterior - Louver Caulk | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 34.2% | | | |

**Reporting Notes:**

(1) Analysis Results For Soil, Dust, Or Debris May Be Highly Variable Because Of The Heterogeneous Nature Of These Samples

Analyzed by: Kensen Caro
Date: 6/8/2023

Reviewed by: Gabriella Morozov

*NAD/NSD =no asbestos detected; NA =not analyzed; NA/PS=not analyzed/positive stop, (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; PLM Bulk Asbestos Analysis using Motic, Model BA310 Pol Scope, Microscope, Serial #: 1190000538, by Appd E to Subpt E, 40 CFR 763 quantified by either CVES or 400 pt ct as noted for each analysis (NVLAP 200546-0), ELAP PLM Method 198.1 for NY friable samples, which includes the identification and quantitation of vermiculite, or ELAP 198.6 for NOB samples, or EPA 400 pt ct by EPA 600-M4-82-020 (NY ELAP Lab 11480); Note:PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos-containing in NY State (also see EPA Advisory for floor tile, FR 59,146,38970,8/1/94) National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab.This PLM report relates ONLY to the items tested. RI Cert AAL-094, CT Cert PH-0186, Mass Cert AA000054, NJ Lab ID #NY031.

_____END OF REPORT_____

**Adelaide Environmental Health Associates, Inc**
1454 Rte. 22, Suite B202
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: Yonkers Armory | Date: 6/6/2023 | Inspector: Jason Fullum |
|---|---|---|
| 2 Quincy Place | Client Project # | |
| Yonkers, New York 10701 | Project #: OGSX:23168.00-IN | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable Non Friable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 1 | 1 | 2 | Room 207 - 12x12 F.T. - Brown Red Mottled | 980SF | NF | G |
| 2 | 1 | 2 | | | | |
| 3 | 2 | 2 | Room 214 - - Black Mastic | | | |
| 4 | 2 | 2 | | | | |
| 5 | 3 | 2 | - 2x4 C.T. - Large + Small Holes | | NF | |
| 6 | 3 | 2 | | | | |
| 7 | 4 | 2 | - Debris on Top of C.T. | | | SD |
| 8 | 5 | 2 | - 2x4 C.T. - Scissles + Holes | | | G |
| 9 | 5 | 2 | | | | |
| 10 | 6 | 2 | - CMU Mortar | | | |
| 11 | 6 | 2 | | | | |
| 12 | 7 | 2 | Room 202 - Coveblase - 4" Black + Mastic | | | |
| 13 | 7 | 2 | | | | |
| | | | | | | |

Special Instructions/ Turnaround Time: 223061619

**Stop at 1st Positive per Homogenous Area** ***24 HR TAT***
**Fax Results to 845-278-7750**
**E-Mail results to AdelaideLabResults@Adelaidellc.com and Jfullum@adelaidellc.com**

Relinquished by:
Received by: Alexandra Vargas 6-7-23 1030
Relinquished by:
Received by:

**Adelaide Environmental Health Associates, Inc**
1454 Rte. 22, Suite B202
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: Yonkers Armory | Date: 6/6/2023 | Inspector: Jason Fullum |
|---|---|---|
| 2 Quincy Place | Client Project # | |
| Yonkers, New York 10701 | Project #: OGSX:23168.00-IN | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable Non Friable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 14 | 8 | 2 | Room 202 - Yellow Carpet Mastic | | NF | G |
| 15 | 8 | 2 | ↓ ↓ | | ↓ | ↓ |
| 16 | 9 | 2 | Hallway - 12x12 F.T. - Green Mottled | | | |
| 17 | 9 | 2 | ↓ ↓ ↓ | | | |
| 18 | 10 | 2 | Room 211 - Debris above C.T. | | F | SD |
| 19 | 10 | 2 | Hallway - Drywall Ceiling | | F | G |
| 20 | 11 | 2 | ↓ ↓ | | F | |
| 21 | 12 | 2 | Room 218 - 12x12 F.T. - Brown + White Mottled | | NF | |
| 22 | 12 | 2 | ↓ ↓ ↓ | | ↓ | |
| 23 | 13 | 2 | Hallway - Joint Compound | | F | |
| 24 | 13 | 2 | ↓ ↓ | | F | |
| 25 | 14 | 2 | Room 222 - 12x12 F.T. - White w/ Gray Specks | | NF | |
| 26 | 14 | 2 | ↓ ↓ | | ↓ | ↓ |
| | | | | | | |

Special Instructions/ Turnaround Time: 23061619

**Stop at 1st Positive per Homogenous Area** ***24 HR TAT***
**Fax Results to 845-278-7750**
**E-Mail results to AdelaideLabResults@Adelaidellc.com and Jfullum@adelaidellc.com**

Relinquished by:
Received by: Alexandra Vaccaro 6/23 1030
Relinquished by:
Received by:

**Adelaide Environmental Health Associates, Inc**
1454 Rte. 22, Suite B202
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: Yonkers Armory | Date: 6/6/2023 | Inspector: Jason Fullum |
|---|---|---|
| 2 Quincy Place | Client Project # | |
| Yonkers, New York 10701 | Project #: OGSX:23168.00-IN | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable Non Friable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 27 | 15 | 2 | Rm. 223 - Women locker - Terrazzo Shower Pan | | NF | D |
| 28 | 15 | 2 | | | | D |
| 29 | 16 | 2 | - Sealant at Shower | | | D |
| 30 | 16 | 2 | | | | D |
| 31 | 17 | 2 | Entrance Doors - Door Glazing Compound | | NF | |
| 32 | 17 | 2 | | | | |
| 33 | 18 | 2 | - Exterior Sealant | | | |
| 34 | 18 | 2 | | | | |
| 35 | 19 | 2 | Concrete | | | |
| 36 | 19 | 2 | | | | |
| 37 | 20 | 2 | Brick Mortar | | | |
| 38 | 20 | 2 | | | | |
| 39 | 21 | 2 | Exterior Vertical Sealant | | | |
| 40 | 21 | 2 | | | | |

Special Instructions/ Turnaround Time: 223061619

**Stop at 1st Positive per Homogenous Area** ***24 HR TAT***
**Fax Results to 845-278-7750**
**E-Mail results to AdelaideLabResults@Adelaidellc.com and Jfullum@adelaidellc.com**

Relinquished by:
Received by: Alexandra Vuic 6/7/23 1030
Relinquished by:
Received by:

**Adelaide Environmental Health Associates, Inc**
1454 Rte. 22, Suite B202
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: Yonkers Armory | Date: 6/6/2023 | Inspector: Jason Fullum |
|---|---|---|
| 2 Quincy Place | Client Project # | |
| Yonkers, New York 10701 | Project #: OGSX:23168.00-IN | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable Non Friable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 41 | 22 | 1 | Boiler Room - Pipe Mastic on Duct | | NF | D |
| 42 | 22 | 1 | | | | D |
| 43 | 23 | 1 | Kitchen - Wall Tile - Grout | | | |
| 44 | 23 | 1 | | | | |
| 45 | 24 | 1 | - Mudset | | | |
| 46 | 24 | 1 | | | | |
| 47 | 25 | 1 | - Floor Tile - Grout | | | |
| 48 | 25 | 1 | | | | |
| 49 | 26 | 1 | - Mudset | | | |
| 50 | 26 | 1 | | | | |
| 51 | 27 | 1 | Exterior - Door Caulk | | | |
| 52 | 27 | 1 | | | | |
| 53 | 28 | 1 | - Louver Caulk | | | |
| 54 | 28 | 1 | | | | |

Special Instructions/ Turnaround Time: 223061619

**Stop at 1st Positive per Homogenous Area** ***24 HR TAT***
**Fax Results to 845-278-7750**
**E-Mail results to AdelaideLabResults@Adelaidellc.com and Jfullum@adelaidellc.com**

Relinquished by:
Received by: Alexandra Vian 6/23 1030
Relinquished by:
Received by:

# APPENDIX E

# XRF READINGS

Adelaide Environmental Heath Associates Inc.
1511 Route 22, Suite C-24
Brewster, New York 10509
Adelaide Project# BA:23168.00-IN
Project Name: Yonkers Armory
Inspector: Jason Fullum

| Reading # | Date | Time | Space Type | Floor | Room | Component | Side | Substrate | Color | Condition | Lead Concentration (mg/cm2) | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6/6/2023 | 9:04:22 | Armory | | Calibration | | | | | | 0.9 | Negative |
| 2 | 6/6/2023 | 9:04:34 | Armory | | Calibration | | | | | | 0.9 | Negative |
| 3 | 6/6/2023 | 9:04:46 | Armory | | Calibration | | | | | | 0.9 | Negative |
| 4 | 6/6/2023 | 9:23:29 | Armory | 2nd Floor | 207 | Wall | A | CMU | Beige | Intact | -0.2 | Negative |
| 5 | 6/6/2023 | 9:24:00 | Armory | 2nd Floor | 207 | Door Case | A | Metal | Black | Intact | 0.4 | Negative |
| 6 | 6/6/2023 | 9:24:27 | Armory | 2nd Floor | 207 | Door | A | Metal | Red | Intact | 0.1 | Negative |
| 7 | 6/6/2023 | 9:25:07 | Armory | 2nd Floor | 201 | Door | A | Metal | Red | Intact | 0 | Negative |
| 8 | 6/6/2023 | 9:25:31 | Armory | 2nd Floor | 201 | Door Case | A | Metal | Black | Intact | 0.5 | Negative |
| 9 | 6/6/2023 | 9:25:58 | Armory | 2nd Floor | 201 | Wall | B | CMU | Black | Intact | -0.2 | Negative |
| 10 | 6/6/2023 | 10:29:25 | Armory | 2nd Floor | Hallway | Wall | B | CMU | Beige | Intact | -0.3 | Negative |
| 11 | 6/6/2023 | 10:30:21 | Armory | 2nd Floor | Hallway | Ceiling | Ceiling | Sheetrock | Beige | Intact | 0.1 | Negative |
| 12 | 6/6/2023 | 11:18:54 | Armory | 2nd Floor | Hallway | Stair Handrail | A | Metal | Red | Intact | 0.1 | Negative |
| 13 | 6/6/2023 | 11:19:20 | Armory | 2nd Floor | Hallway | Stair Stringer | A | Metal | Red | Intact | 0.1 | Negative |
| 14 | 6/6/2023 | 11:19:35 | Armory | 2nd Floor | Hallway | Stair Riser | A | Metal | Red | Intact | 0.2 | Negative |
| 15 | 6/6/2023 | 11:21:42 | Armory | 2nd Floor | Hallway | Ceiling | Ceiling | Sheetrock | Off White | Intact | 0.1 | Negative |
| 16 | 6/6/2023 | 11:28:51 | Armory | 2nd Floor | Bathroom | Floor | Floor | Concrete | Grey | Intact | 0 | Negative |
| 17 | 6/6/2023 | 11:30:19 | Armory | 2nd Floor | Bathroom | Floor | Floor | Concrete | Red | Intact | 0 | Negative |
| 18 | 6/6/2023 | 11:30:37 | Armory | 2nd Floor | Bathroom | Floor | Floor | Concrete | Yellow | Intact | 0 | Negative |
| 19 | 6/6/2023 | 11:31:02 | Armory | 2nd Floor | Bathroom | Wall | A | CMU | Yellow | Intact | -0.2 | Negative |
| 20 | 6/6/2023 | 11:31:26 | Armory | 2nd Floor | Bathroom | Ceiling | Ceiling | Sheetrock | Yellow | Intact | -0.2 | Negative |
| 21 | 6/6/2023 | 11:41:55 | Armory | 2nd Floor | 223 | Wall | D | CMU | Off White | Intact | -0.1 | Negative |
| 22 | 6/6/2023 | 11:42:25 | Armory | 2nd Floor | 223 | Door | A | Metal | Red | Intact | 0 | Negative |
| 23 | 6/6/2023 | 11:42:48 | Armory | 2nd Floor | 223 | Door Case | A | Metal | Black | Intact | 0.4 | Negative |
| 24 | 6/6/2023 | 11:43:21 | Armory | 2nd Floor | 223 | Floor | Floor | Concrete | Red | Intact | 0 | Negative |
| 25 | 6/6/2023 | 11:43:50 | Armory | 2nd Floor | 223 | Wall | B | CMU | Yellow | Intact | -0.3 | Negative |
| 26 | 6/6/2023 | 11:45:02 | Armory | 2nd Floor | 223 | Ceiling | Ceiling | Sheetrock | Yellow | Intact | 0 | Negative |
| 27 | 6/6/2023 | 13:30:04 | Armory | 1st Floor | Bathroom | Floor | Floor | Concrete | Green | Intact | 0.2 | Negative |
| 28 | 6/6/2023 | 13:30:37 | Armory | 1st Floor | Bathroom | Wall | A | CMU | Beige | Intact | -0.1 | Negative |
| 29 | 6/6/2023 | 13:31:07 | Armory | 1st Floor | Bathroom | Ceiling | Ceiling | Sheetrock | Beige | Intact | -0.2 | Negative |
| 30 | 6/6/2023 | 13:33:44 | Armory | 1st Floor | Exterior | roll up door rail | C | Metal | Green | Intact | 0 | Negative |
| 31 | 6/6/2023 | 13:34:32 | Armory | 1st Floor | Exterior | Door | C | Metal | Green | Intact | 0.1 | Negative |
| 32 | 6/6/2023 | 13:34:50 | Armory | 1st Floor | Exterior | Exterior Door | C | Metal | Green | Intact | -0.1 | Negative |
| 33 | 6/6/2023 | 13:35:08 | Armory | 1st Floor | Exterior | Exterior Door Case | C | Metal | Green | Intact | 0.4 | Negative |
| 34 | 6/6/2023 | 14:01:04 | Armory | 1st Floor | Exterior | Window Case | B | Metal | Green | Intact | 0 | Negative |
| 35 | 6/6/2023 | 14:05:06 | Armory | | Calibration | | | | | | 0.9 | Negative |
| 36 | 6/6/2023 | 14:05:18 | Armory | | Calibration | | | | | | 1 | Positive |
| 37 | 6/6/2023 | 14:05:30 | Armory | | Calibration | | | | | | 1 | Positive |

# APPENDIX F

# PCB ANALYTICAL RESULTS

PHOENIX
Environmental Laboratories, Inc.

**Thursday, June 15, 2023**

**Attn: Stephanie Soter**
**Adelaide Environmental Health Assoc,Inc**
**1511 Route 22, Suite C24**
**Brewster, NY 10509**

**Project ID:** YONKERS ARMORY 23168.00
**SDG ID:** GCO21952
**Sample ID#s:** CO21952 - CO21957

**This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.**

**This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.**

**All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.**

**A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.**

**If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.**

**Sincerely yours,**

**Phyllis Shiller**
**Laboratory Director**

**NELAC - #NY11301**
**CT Lab Registration #PH-0618**
**MA Lab Registration #M-CT007**
**ME Lab Registration #CT-007**
**NH Lab Registration #213693-A,B**
**NJ Lab Registration #CT-003**
**NY Lab Registration #11301**
**PA Lab Registration #68-03530**
**RI Lab Registration #63**
**VT Lab Registration #VT11301**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Sample Id Cross Reference

June 15, 2023

SDG I.D.: GCO21952

Project ID: YONKERS ARMORY 23168.00

| Client Id | Lab Id | Matrix |
|---|---|---|
| PCB1-WOMENS SHOWER | CO21952 | BULK |
| PCB2-GLAZING | CO21953 | CAULK |
| PCB3-EXT. DOOR CAULK | CO21954 | CAULK |
| PCB4-EXT. SEALANT | CO21955 | CAULK |
| PCB5- EXT. DOOR CAULK | CO21956 | CAULK |
| PCB 6-LOUVER CAULK | CO21957 | CAULK |

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | BULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21952

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB1-WOMENS SHOWER

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 55 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 40 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 52 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 47 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

Project ID: YONKERS ARMORY 23168.00 Phoenix I.D.: CO21952
Client ID: PCB1-WOMENS SHOWER

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

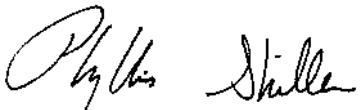
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

PCB Comment:
Due to limited sample an elevated RL was reported.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH NY #11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21953

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB2-GLAZING

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 54 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 52 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 57 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 55 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21954

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB3-EXT. DOOR CAULK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 39 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 34 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 31 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 31 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

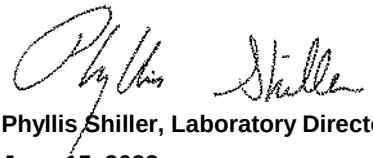
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

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**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21955

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB4-EXT. SEALANT

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 41 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 35 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 36 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 36 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

Project ID: YONKERS ARMORY 23168.00 Phoenix I.D.: CO21955
Client ID: PCB4-EXT. SEALANT

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

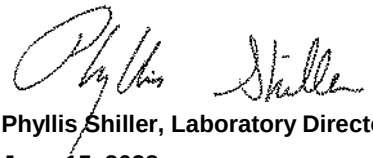
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

PHOENIX

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21956

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB5- EXT. DOOR CAULK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 43 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 36 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 39 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 38 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

Project ID: YONKERS ARMORY 23168.00 Phoenix I.D.: CO21956
Client ID: PCB5- EXT. DOOR CAULK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

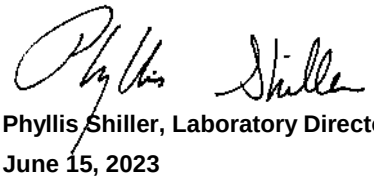
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

PHOENIX

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ACCREDITED IN ACCORDANCE WITH NY #11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21957

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB 6-LOUVER CAULK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/12/23 | Q/AC1 | SW3540C | |
| **PCB (Soxhlet SW3540C)** | | | | | | | | |
| PCB-1016 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1221 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1232 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1242 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1248 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1254 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1260 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1262 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1268 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 17 | | % | 1 | 06/13/23 | SC | 30 - 150 % | 3 |
| % DCBP (Confirmation) | 17 | | % | 1 | 06/13/23 | SC | 30 - 150 % | 3 |
| % TCMX | 17 | | % | 1 | 06/13/23 | SC | 30 - 150 % | 3 |
| % TCMX (Confirmation) | 17 | | % | 1 | 06/13/23 | SC | 30 - 150 % | 3 |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

3 = This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

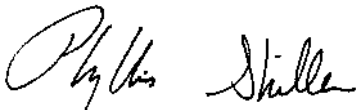
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

PCB Comment:
Poor surrogate recovery was observed for PCBs. Sample was re-extracted with similar results.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

PHOENIX

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# QA/QC Report

June 15, 2023

## QA/QC Data

SDG I.D.: GCO21952

| Parameter | Blank | Blk RL | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| QA/QC Batch 681421 (ug/Kg), QC Sample No: CO21956 10X (CO21952, CO21953, CO21954, CO21955, CO21956) | | | | | | | | | | |
| **Polychlorinated Biphenyls - Bulk** | | | | | | | | | | |
| PCB-1016 | ND | 170 | 99 | 91 | 8.4 | | | | 40 - 140 | 30 |
| PCB-1221 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1232 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1242 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1248 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1254 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1260 | ND | 170 | 106 | 107 | 0.9 | | | | 40 - 140 | 30 |
| PCB-1262 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1268 | ND | 170 | | | | | | | 40 - 140 | 30 |
| % DCBP (Surrogate Rec) | 107 | % | 111 | 106 | 4.6 | | | | 30 - 150 | 30 |
| % DCBP (Surrogate Rec) (Confirm | 102 | % | 101 | 102 | 1.0 | | | | 30 - 150 | 30 |
| % TCMX (Surrogate Rec) | 89 | % | 95 | 87 | 8.8 | | | | 30 - 150 | 30 |
| % TCMX (Surrogate Rec) (Confirm | 82 | % | 89 | 82 | 8.2 | | | | 30 - 150 | 30 |
| Comment: | | | | | | | | | | |
| A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate. | | | | | | | | | | |
| QA/QC Batch 681903 (ug/Kg), QC Sample No: CO21957 10X (CO21957) | | | | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | | | | |
| PCB-1016 | ND | 170 | 101 | 105 | 3.9 | | | | 40 - 140 | 30 |
| PCB-1221 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1232 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1242 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1248 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1254 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1260 | ND | 170 | 115 | 121 | 5.1 | | | | 40 - 140 | 30 |
| PCB-1262 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1268 | ND | 170 | | | | | | | 40 - 140 | 30 |
| % DCBP (Surrogate Rec) | 104 | % | 100 | 109 | 8.6 | | | | 30 - 150 | 30 |
| % DCBP (Surrogate Rec) (Confirm | 109 | % | 103 | 111 | 7.5 | | | | 30 - 150 | 30 |
| % TCMX (Surrogate Rec) | 99 | % | 95 | 103 | 8.1 | | | | 30 - 150 | 30 |
| % TCMX (Surrogate Rec) (Confirm | 98 | % | 95 | 102 | 7.1 | | | | 30 - 150 | 30 |
| Comment: | | | | | | | | | | |
| A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate. | | | | | | | | | | |

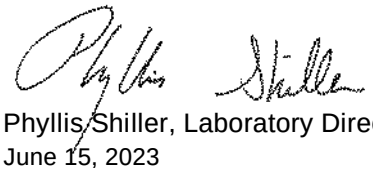
# QA/QC Data

SDG I.D.: GCO21952

| Parameter | Blank | Blk RL | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference



Phyllis Shiller, Laboratory Director
June 15, 2023

Thursday, June 15, 2023

Criteria: None

State: NY

# Sample Criteria Exceedances Report

## GCO21952 - ADELAIDE

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|---|---|---|---|---|---|---|---|---|
| CO21952 | $PCB_SOXR | PCB-1268 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1262 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1260 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1254 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1248 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1242 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1232 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1221 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1016 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

**Environmental Laboratories, Inc.**
**587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045**
**Tel. (860) 645-1102 Fax (860) 645-0823**

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Comments

June 15, 2023 SDG I.D.: GCO21952

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

***PCB Narration***

**AU-ECD5 06/13/23-1:** CO21957

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CO21957
Preceding CC 613B016 - None.
Succeeding CC 613B029 - DCBP SURR 23%L (15%)

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**Tel. (860) 645-1102 Fax (860) 645-0823**

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# NY Temperature Narration

**June 15, 2023**

**SDG I.D.: GCO21952**

The samples in this delivery group were received at 1.1°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes ☐ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp ____ °C Pg ____ of ____

# NY/NJ/PA CHAIN OF CUSTODY RECORD

**PHOENIX** Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: Makrina Nolan, makrina@phoenixlabs.com Fax (860) 645-0823
**Client Services (860) 645-1102**

**Contact Options:**
☐ Phone:
☐ Fax:
☐ Email:

Customer: Adelaide
Address: 1511 Rte 22, Ste C24
Somerset, NJ 10505

Project: Yankee Armory 23168.00
Report to:
Invoice to:
QUOTE # :

Project P.O:

***This section MUST be completed with Bottle Quantities.***

Sampler's Signature: _____ Date: 6/6/23

Client Sample - Information / Identification

**Matrix Code:**
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
OIL=Oil B=Bulk L=Liquid

Analysis Request

| PHOENIX USE ONLY SAMPLE # | Customer Sample Identification | Sample Matrix | Date Sampled | Time Sampled | *MS/MSD (May be billable at analysis unit rate) | PCB's | BAS | GL Amber 8 oz. [ ] wt $H_3PO_4$ [ ] $NaHSO_4$ | Soil VOA Vials [ ] methanol [ ] $H_2O$ | GL Soil container ( ) oz | 40 ml VOA Vial [ ] As is [ ] HCl | GL Amber 1000ml [ ] As is [ ] $H_2SO_4$ | PL As is [ ] 250ml [ ] 500ml [ ] 1000ml | PL $H_2SO_4$ [ ] 250ml [ ] 500ml [ ] 1000ml | PL NaOH 250ml | PL $HNO_3$ 250ml | Bacteria Bottle w/thio | Bacteria Bottle as is |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21952 | PCB1-Women Shower | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21953 | PCB2-Glazing Compd | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21954 | PCB3-Ext. Door Caulk | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21955 | PCB4-Ext. Vert. Sealant | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21956 | PCB5-Ext. Door Caulk | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21957 | PCB6-Louver Caulk | | 6/6/23 | | | X | 1 | | | | | | | | | | | |

| Relinquished by: | Accepted by: | Date: | Time: |
|---|---|---|---|
| | | 6.7.23 | 1000 |
| | | 6-7-23 | 15:45 |
| | | 6/7/23 | 17:16 |

**Turnaround:**
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*
☐ Standard
* SURCHARGE APPLIES
7 DAYS

**NJ**
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ Impact to GW soil screen Criteria
☐ GW Criteria

**NY**
☐ TOGS GW
☐ CP-51 SOIL
☐ 375SCO Unrestricted Soil
☐ 375SCO Residential Soil
☐ 375SCO Residential Restricted Soil
☐ 375SCO Commercial Soil
☐ 375SCO Industrial Soil
☐ Subpart 5 DW

**PA**
☐ Clean Fill Limits
☐ PA-GW
☐ Reg Fill Limits
☐ PA Soil Restricted
☐ PA Soil non-restricted

State Samples Collected?
NY

**Data Package:**
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

**Comments, Special Requirements or Regulations:**

**Data Format:**
☐ Phoenix Std Report ☐ EQuIS
☐ Excel ☐ NJ Hazsite EDD
☐ PDF ☐ NY EZ EDD (ASP)
☐ GIS/Key ☐ Other

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

# APPENDIX G

# PERSONNEL AND LABORATORY CERTIFICATIONS

[redacted]

DIVISION OF SAFETY & HEALTH LIC[redacted]US, BLDG. 12, ALBANY, NY 12226

# ASBESTOS HANDLING LICENSE

Adelaide Environmental Health Associates, Inc.
1511 Route 22, Suite C24, Brewster, NY, 10509

License Number: 29305
License Class: RESTRICTED
Date of Issue: 06/07/2023
Expiration Date: 07/31/2024
Duly Authorized Representative: John Soter

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

# United States Environmental Protection Agency

## This is to certify that

ADELAIDE ENVIRONMENTAL HEALTH ASSOCIATES INC

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires September 08, 2025

LBP-15081-2

Certification #

August 25, 2022

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

# United States Environmental Protection Agency

## This is to certify that

Adelaide Environmental Health Associates, Inc

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint renovation, repair, and painting activities pursuant to 40 CFR Part 745.89

## In the Jurisdiction of:

All EPA Administered States, Tribes, and Territories

This certification is valid from the date of issuance and expires December 05, 2027

NAT-15081-3

Certification #

August 03, 2022

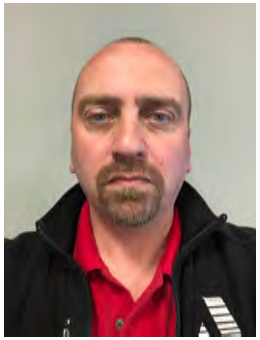
Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

# United States Environmental Protection Agency

## This is to certify that



Jason P Fullum

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires July 11, 2023

LBP-R-12098-2

Certification #

May 07, 2020

Issued On

Susan Schulz, Acting Chief

Chemicals and Multimedia Programs Branch

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S



**JASON P FULLUM**
CLASS(EXPIRES)
C ATEC(02/24) D INSP(02/24)
E MGPL(02/24) H PM (02/24)
I PD (02/24)

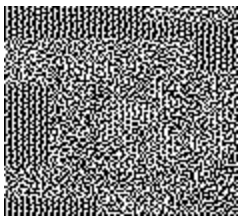
CERT# 97-20574
DMV# 375065936

MUST BE CARRIED ON ASBESTOS PROJECTS

EYES BLU
HAIR BRO
HGT 5' 11"

IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**



Expires 12:01 AM April 01, 2024
Issued April 01, 2022
Revised March 30, 2023

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*MS. KAROL H. LU*
*AMERICA SCIENCE TEAM NEW YORK, INC*
*117 EAST 30TH ST*
*NEW YORK, NY 10016*

*NY Lab Id No: 11480*

*is hereby APPROVED as an Environmental Laboratory for the category*
*ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE*
*All approved subcategories and/or analytes are listed below:*

**Miscellaneous**

| | |
|---|---|
| Asbestos in Friable Material | Item 198.1 of Manual |
| | EPA 600/M4/82/020 |
| Asbestos in Non-Friable Material-PLM | Item 198.6 of Manual (NOB by PLM) |
| Asbestos in Non-Friable Material-TEM | Item 198.4 of Manual |



Serial No.: 66402

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**

Expires 12:01 AM April 01, 2024
Issued April 01, 2022
Revised March 30, 2023

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*MS. PHYLLIS SHILLER*
*PHOENIX ENVIRONMENTAL LABS*
*587 EAST MIDDLE TURNPIKE*
*MANCHESTER, CT 06040*

*NY Lab Id No: 11301*

*is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE*
*All approved analytes are listed below:*

**Polychlorinated Biphenyls**

| | |
|---|---|
| Aroclor 1262 (PCB-1262) | EPA 8082A |
| Aroclor 1262 (PCB-1262) in Oil | EPA 8082A |
| Aroclor 1268 (PCB-1268) | EPA 8082A |
| Aroclor 1268 (PCB-1268) in Oil | EPA 8082A |
| PCB 101 | EPA 8082A |
| PCB 105 | EPA 8082A |
| PCB 118 | EPA 8082A |
| PCB 128 | EPA 8082A |
| PCB 138 | EPA 8082A |
| PCB 153 | EPA 8082A |
| PCB 170 | EPA 8082A |
| PCB 18 | EPA 8082A |
| PCB 180 | EPA 8082A |
| PCB 183 | EPA 8082A |
| PCB 184 | EPA 8082A |
| PCB 187 | EPA 8082A |
| PCB 195 | EPA 8082A |
| PCB 206 | EPA 8082A |
| PCB 209 | EPA 8082A |
| PCB 28 | EPA 8082A |
| PCB 44 | EPA 8082A |
| PCB 49 | EPA 8082A |
| PCB 52 | EPA 8082A |
| PCB 66 | EPA 8082A |
| PCB 8 | EPA 8082A |
| PCB 87 | EPA 8082A |
| PCB Congeners, Total | EPA 8082A |

Serial No.: 66336

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**

Expires 12:01 AM April 01, 2024
Issued April 01, 2022
Revised March 30, 2023

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*MS. PHYLLIS SHILLER*
*PHOENIX ENVIRONMENTAL LABS*
*587 EAST MIDDLE TURNPIKE*
*MANCHESTER, CT 06040*

*NY Lab Id No: 11301*

*is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES AIR AND EMISSIONS*
*All approved analytes are listed below:*

| | |
|---|---|
| **Acrylates** | |
| Acrylonitrile | EPA TO-15 |
| Methyl methacrylate | EPA TO-15 |
| **Chlorinated Hydrocarbons** | |
| 1,2,4-Trichlorobenzene | EPA TO-15 |
| Hexachlorobutadiene | EPA TO-15 |
| Hexachloroethane | EPA TO-15 |
| **Metals I** | |
| Lead, Total | EPA 29 (6010) |
| | EPA 7010 |
| **Polychlorinated Biphenyls** | |
| PCBs and Aroclors | EPA TO-10A |
| **Polynuclear Aromatics** | |
| Naphthalene | EPA TO-15 |
| **Purgeable Aromatics** | |
| 1,2,4-Trimethylbenzene | EPA TO-15 |
| 1,2-Dichlorobenzene | EPA TO-15 |
| 1,3,5-Trimethylbenzene | EPA TO-15 |
| 1,3-Dichlorobenzene | EPA TO-15 |
| 1,4-Dichlorobenzene | EPA TO-15 |
| 2-Chlorotoluene | EPA TO-15 |
| Benzene | EPA TO-15 |
| Chlorobenzene | EPA TO-15 |
| Ethyl benzene | EPA TO-15 |
| Isopropylbenzene | EPA TO-15 |
| m/p-Xylenes | EPA TO-15 |

Serial No.: 66338

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

Kathy Hochul, Governor

Roberta Reardon, Commissioner

Contract Management

Contract Awards
Contract Management - 35th Fl.
Corning Tower
Empire State Plaza
Albany NY 12242

| | |
|---|---|
| Schedule Year | 2026 through 2027 |
| Date Requested | 08/21/2026 |
| PRC# | 2026024953 |

| | |
|---|---|
| Location | State Armory |
| Project ID# | 47477 |
| Project Type | Renovate Armory |

## PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Rate Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2026 through June 2027. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

### NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

# General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

## Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

## Contractor Registry

Effective December 30, 2024 all contractors and subcontractors submitting bids or performing construction work on public work projects, or private projects covered by Article 8 of the Labor Law, are required to register with the New York State Department of Labor (NYSDOL) under Labor Law Section 220-i. To register, contractors and subcontractors must submit an application through NYSDOL's Contractor Registry portal which is available through the agency's Management System for Protecting Worker Rights (MPWR) https://mpwr-public.labor.ny.gov/en/login.

For additional information, please visit online.

## Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission: a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

## Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

## Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12226; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website

www.labor.ny.gov.

## Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemperaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment.Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed $100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds $25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

## Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

## Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

## Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

## Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12226 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

## Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

## Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

## Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

## Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b) ).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of $50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c) ).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d) ).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

## Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

## Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.

Kathy Hochul, Governor

Roberta Reardon, Commissioner

Contract Management

Contract Awards
Contract Management - 35th Fl.
Corning Tower
Empire State Plaza
Albany NY 12242

| | |
|---|---|
| Schedule Year | 2026 through 2027 |
| Date Requested | 08/21/2026 |
| PRC# | 2026024953 |

| | |
|---|---|
| Location | State Armory |
| Project ID# | 47477 |
| Project Type | Renovate Armory |

## Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

### Contractor Information
All information must be supplied

Federal Employer Identification Number: _____

Name: _____

Address: _____

_____

City: _____ State: _____ Zip: _____

Amount of Contract: $_____

Approximate Starting Date: ____/____/____

Approximate Completion Date: ____/____/____

Contract Type:

[ ] (01) General Construction
[ ] (02) Heating/Ventilation
[ ] (03) Electrical
[ ] (04) Plumbing
[ ] (05) Other : _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12226

## Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

## Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to $1,500 for a first offense and up to $5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, https://dol.ny.gov/public-work-and-prevailing-wage
If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov .

## Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

### Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website *www.labor.ny.gov* or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(12.20)

**To all State Departments, Agency Heads and Public Benefit Corporations**
**IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

## Budget Policy & Reporting Manual

# B-610

### Public Work Enforcement Fund

*effective date December 7, 2005*

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## 1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

## 2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

## 3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

**To all State Departments, Agency Heads and Public Benefit Corporations**
**IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12226

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

NEW YORK STATE OF OPPORTUNITY. Department of Labor

Required Notice under Article 25-B of the Labor Law

# Attention All Employees, Contractors and Subcontractors: You are Covered by the Construction Industry Fair Play Act

**The law says that you are an employee unless:**

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

**It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.**

**Employee Rights:** If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

**Independent Contractors:** If you are an independent contractor**, you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

**Penalties** for paying workers off the books or improperly treating employees as independent contractors:

| | |
|---|---|
| • **Civil Penalty** | First offense: Up to $2,500 per employee<br>Subsequent offense(s): Up to $5,000 per employee |
| • **Criminal Penalty** | First offense: Misdemeanor - up to 30 days in jail, up to a $25,000 fine and debarment from performing public work for up to one year.<br>Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a $50,000 fine and debarment from performing public work for up to 5 years. |

**If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.**

**Employer Name:**

IA 999 (09/16)

WE ARE YOUR DOL

NEW YORK STATE Department of Labor

New York State Department of Labor
Bureau of Public Work

# Attention Employees

**THIS IS A:**

# PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Your pay stub and wage notice received upon hire must clearly state your wage rate and supplement rate.

Chapter 629 of the Labor Laws of 2007:

**These wages are set by law and must be posted at the work site. They can also be found at: https://dol.ny.gov/bureau-public-work**

If you feel that you have not received proper wages or benefits, please call our nearest office.*

| | | | |
|---|---|---|---|
| Albany | (518) 457-2744 | Patchogue | (631) 687-4882 |
| Binghamton | (607) 721-8005 | Rochester | (585) 258-4505 |
| Buffalo | (716) 847-7159 | Syracuse | (315) 428-4056 |
| Garden City | (516) 228-3915 | Utica | (315) 793-2314 |
| New York City | (212) 932-2419 | White Plains | (914) 997-9507 |
| Newburgh | (845) 568-5287 | | |

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

# Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is $250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training “prior to the performing any work on the project.”

### The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.)*
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

### WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is $3 million in Bronx, Kings, New York, Queens and, Richmond counties; $1.5 million in Nassau, Suffolk and Westchester counties; and $500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirement s on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

# Introduction to the Prevailing Rate Schedule

### Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

### Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.
Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.
Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.
Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

*Contractor Registry (LL 220-I):
Labor Law Section 220-i requires that contractors obtain a Contractor Registry certificate of registration prior to bidding on or commencing work on a public or private project subject to prevailing wage requirements. Subcontractors also are prohibited from commencing work on covered employment unless they have received a Contractor Registry certificate. Contractors are required to submit their Certificate of Registration with their bid materials. A public database is available online to confirm registration at data.ny.gov to confirm registration validity. For additional information on how to register and the requirements, visit https://dol.ny.gov/public-work-contractor-and-subcontractorregistry-
landing.

### Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the projects date of completion. Additionally, as per Article 6 of the Labor Law, contractors and subcontractors are required to establish, maintain, and preserve for not less that six (6) years, contemporaneous, true, and accurate payroll records.

At a minimum, payrolls must show the following information for each person employed on a public work project: Name; Address, Last 4 Digits of Social Security number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Payroll records and transcripts are required to be kept on site during all the time that work under that contract is being performed.

**NOTE:** *For more detailed information regarding Article 9 prevailing wage contracts, please refer to "General Provisions of Laws Covering Workers on Article 9 Public Work Building Service Contracts".*

If you have any questions concerning the attached schedule or would like additional information, please write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

OR

Contact the nearest BUREAU of PUBLIC WORK District Office

| District Office Locations: | Telephone # | FAX # |
|---|---|---|
| Bureau of Public Work - Albany | 518-457-2744 | 518-485-0240 |
| Bureau of Public Work - Binghamton | 607-721-8005 | 607-721-8004 |
| Bureau of Public Work - Buffalo | 716-847-7159 | 716-847-7650 |
| Bureau of Public Work - Garden City | 516-228-3915 | 516-794-3518 |

| | | |
|---|---|---|
| Bureau of Public Work - Newburgh | 845-568-5287 | 845-568-5332 |
| Bureau of Public Work - New York City | 212-932-2419 | 212-775-3579 |
| Bureau of Public Work - Patchogue | 631-687-4882 | 631-687-4902 |
| Bureau of Public Work - Rochester | 585-258-4505 | 585-258-4708 |
| Bureau of Public Work - Syracuse | 315-428-4056 | 315-428-4671 |
| Bureau of Public Work - Utica | 315-793-2314 | 315-793-2514 |
| Bureau of Public Work - White Plains | 914-997-9507 | 914-997-9523 |
| Bureau of Public Work - Central Office | 518-457-5589 | 518-485-1870 |

### Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

### Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. The specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

### Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

### Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. Please Note: Updates to the Wage Schedule shall be made on a quarterly basis.

All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

### Shift Work

If the timeline of the contract requires shift work be performed to meet deadlines, the BPWE will enforce the shift work rate as the required rate on the project whether or not shift work is specifically addressed in the contract.

### Paid Prenatal Leave

Every employer shall be required to provide to its employees twenty hours of paid prenatal personal leave during any fifty-two week calendar period. Paid prenatal personal leave shall mean leave taken for the health care services received by an employee during their pregnancy or related to such pregnancy, including physical examinations, medical procedures, monitoring and testing, and discussions with a healthcare provider related to the pregnancy. Paid prenatal personal leave may be taken in hourly increments. Benefits for paid prenatal personal leave shall be paid in hourly installments. Employees shall receive compensation at the employee's regular rate of pay, or the applicable minimum wage established by the labor law, whichever is greater, for the use of Paid Prenatal leave.

### Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

| Title (Trade) | Ratio |
|---|---|
| Boilermaker (Construction) | 1:1,1:4 |

| | |
|---|---|
| Boilermaker (Shop) | 1:1,1:3 |
| Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder) | 1:1,1:4 |
| Carpenter (Residential) | 1:1,1:3 |
| Electrical (Outside) Lineman | 1:1,1:2 |
| Electrician (Inside) | 1:1,1:3 |
| Elevator/Escalator Construction & Modernizer | 1:1,1:2 |
| Glazier | 1:1,1:3 |
| Insulation & Asbestos Worker | 1:1,1:3 |
| Iron Worker | 1:1,1:4 |
| Laborer | 1:1,1:3 |
| Mason | 1:1,1:4 |
| Millwright | 1:1,1:4 |
| Op Engineer | 1:1,1:5 |
| Painter | 1:1,1:3 |
| Plumber & Steamfitter | 1:1,1:3 |
| Roofer | 1:1,1:2 |
| Sheet Metal Worker | 1:1,1:3 |
| Sprinkler Fitter | 1:1,1:2 |

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12226

| District Office Locations: | Telephone # | FAX # |
|---|---|---|
| Bureau of Public Work - Albany | 518-457-2744 | 518-485-0240 |
| Bureau of Public Work - Binghamton | 607-721-8005 | 607-721-8004 |
| Bureau of Public Work - Buffalo | 716-847-7159 | 716-847-7650 |
| Bureau of Public Work - Garden City | 516-228-3915 | 516-794-3518 |
| Bureau of Public Work - Newburgh | 845-568-5287 | 845-568-5332 |
| Bureau of Public Work - New York City | 212-932-2419 | 212-775-3579 |
| Bureau of Public Work - Patchogue | 631-687-4882 | 631-687-4902 |
| Bureau of Public Work - Rochester | 585-258-4505 | 585-258-4708 |
| Bureau of Public Work - Syracuse | 315-428-4056 | 315-428-4671 |
| Bureau of Public Work - Utica | 315-793-2314 | 315-793-2514 |
| Bureau of Public Work - White Plains | 914-997-9507 | 914-997-9523 |
| Bureau of Public Work - Central Office | 518-457-5589 | 518-485-1870 |

## Westchester County General Construction

### Boilermaker — 08/01/2026

**JOB DESCRIPTION** Boilermaker **DISTRICT** 4

**ENTIRE COUNTIES**
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

**WAGES**

| Per Hour: | 07/01/2026 | 01/01/2027 |
|---|---|---|
| Boilermaker | $ 70.38 | $ 71.88 |
| Repairs & Renovations | 70.38 | 71.88 |

Repairs & Renovation: Includes Repairing, Renovating, and Replacement of parts to an existing unit(s).

**SUPPLEMENTAL BENEFITS**
Per Hour:

| | |
|---|---|
| Boilermaker | 33.5% of Hourly |
| Repair & Renovations | Wage Paid<br>+ $26.85 |

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay.

**OVERTIME PAY**
See (*B, O, **U) on OVERTIME PAGE
Note:* Includes 9th & 10th hours, double for 11th or more.
** Labor Day ONLY, if worked.

Repairs & Renovation see (B,E,Q) on OT Page

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 12, 15, 25, 26, 29) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
(1/2) Year Terms at the following percentage of Boilermaker's wage per hour:

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
|---|---|---|---|---|---|---|
| 65% | 70% | 75% | 80% | 85% | 90% | 95% |

SUPPLEMENTAL BENEFITS:

33.5% of Hourly Wage Paid Plus Amount Below:

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
|---|---|---|---|---|---|---|
| $20.36 | $21.28 | $22.22 | $23.12 | $24.07 | $25.00 | $25.93 |

NOTE: "Hourly Wage Paid" shall include any and all premium(s)

4-5

### Broadband — 08/01/2026

**JOB DESCRIPTION** Broadband **DISTRICT** 4

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**PARTIAL COUNTIES**
Orange: Entire County except Village of Greenwood Lake, Village of Highland Falls, Town of Tuxedo, and Town of Patterson

**WAGES**
NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to New York State Labor Law §224-E, solicited on or after July 1,2025. For all other projects solicited prior to July 1,2025 please see LINEMAN ELECTRICIAN(1)-TELEDATA

| Per Hour: | 07/01/2026 | 08/04/2026 |
|---|---|---|
| Field Tech Install/Repair* | $ 55.59 | $ 57.26 |

For outside work (excluding installation on building construction/alteration/renovation projects), stopping at first point of attachment (demarcation), installing/maintaining/repairing broadband internet service.

"Broadband", "Broadband Service", or "Broadband Internet" means mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service.

*NOTE: EXCLUDES work within ten(10) feet of High Voltage (600 Volts and over) transmussion lines. Please see LINEMAN rates.
*NOTE: Does not include the operation of equipment. Please see OPERATING ENGINEER rates.
*NOTE: Does not include groundmen/flagger/flagmen. Please see LABORER/LABORER-HEAVY/HIGHWAY rates.

**SUPPLEMENTAL BENEFITS**
Per Hour:

$ 23.54

**OVERTIME PAY**
See (B, K, *R) on OVERTIME PAGE
*Two and one half times the hourly rate after the 8th hour

**HOLIDAY**
Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

4-CWA-Dist1

## Carpenter — 08/01/2026

**JOB DESCRIPTION** Carpenter **DISTRICT** 8

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**
Per hour: 07/01/2026

| | |
|---|---|
| Piledriver | $ 62.59 + 10.16* |
| Dockbuilder | $ 62.59 + 10.16* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

**SUPPLEMENTAL BENEFITS**
Per hour:

Journeyworker $ 47.48

**OVERTIME PAY**
See (B, E2, O) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.
Apprentices See (5,6,11,13,25)

Overtime: See (5,6,11,13,25) on HOLIDAY PAGE.

**REGISTERED APPRENTICES**
Wages per hour
(1)year terms:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 28.98 + 5.66* | $ 34.58 + 5.66* | $ 42.96 + 5.66* | $ 51.35 + 5.66* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental benefits per hour:

All Terms: $ 34.03

8-1556 Db

## Carpenter — 08/01/2026

**JOB DESCRIPTION** Carpenter **DISTRICT** 8

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**
Per hour: 07/01/2026

Carpet/Resilient
Floor Coverer $ 60.05
+ 8.39*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

INCLUDES HANDLING & INSTALLATION OF ARTIFICIAL TURF AND SIMILAR TURF INDOORS/OUTDOORS.

**SUPPLEMENTAL BENEFITS**
Per hour:
$ 42.24

**OVERTIME PAY**
See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**
Paid: See (18, 19) on HOLIDAY PAGE.

Paid for 1st & 2nd yr.
Apprentices See (5,6,11,13,16,18,19,25)
Overtime: See (5,6,11,13,16,18,19,25) on HOLIDAY PAGE.

**REGISTERED APPRENTICES**
Wage per hour - (1) year terms:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 26.54 | $ 29.60 | $ 34.05 | $ 42.40 |
| + 2.00* | + 2.54* | + 3.00* | + 3.94* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental benefits per hour:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 16.91 | $ 18.13 | $ 21.67 | $ 22.98 |

8-2287

## Carpenter 08/01/2026

**JOB DESCRIPTION** Carpenter **DISTRICT** 8

**ENTIRE COUNTIES**
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**
Per Hour: 07/01/2026

Marine Construction:

Marine Diver $ 77.46
+ 10.16*

Marine Tender $ 57.00
+ 10.16*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime

**SUPPLEMENTAL BENEFITS**
Per Hour:

Journeyworker $ 47.48

**OVERTIME PAY**
See (B, E, E2, Q) on OVERTIME PAGE

**HOLIDAY**
Paid: See (18, 19) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 13, 16, 18, 19, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
Wages per hour:
One (1) year terms.

| | |
|---|---|
| 1st year | $ 28.98 |
| | + 5.66* |
| 2nd year | 34.58 |
| | + 5.66* |
| 3rd year | 42.96 |
| | + 5.66* |
| 4th year | 51.35 |
| | + 5.66* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental Benefits
Per Hour:

| | |
|---|---|
| All terms | $ 34.03 |

8-1456MC

## Carpenter — 08/01/2026

**JOB DESCRIPTION** Carpenter **DISTRICT** 8

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**
Per hour: 07/01/2026

Building

| | |
|---|---|
| Millwright | $ 62.03 |
| | + 13.12* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

**SUPPLEMENTAL BENEFITS**
Per hour:

| | |
|---|---|
| Millwright | $ 46.66 |

**OVERTIME PAY**
See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**
Paid: See (18,19) on HOLIDAY PAGE.

Overtime: See (5,6,8,11,13,15,18,19,25) on HOLIDAY PAGE.

**REGISTERED APPRENTICES**
Wages per hour:
One (1) year terms:

| 1st. | 2nd. | 3rd. | 4th. |
|---|---|---|---|
| $ 33.04 | $ 38.89 | $ 44.74 | $ 56.44 |
| + 7.08* | + 8.25* | + 9.42* | + 11.76* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental benefits per hour:
One (1) year terms:

| 1st. | 2nd. | 3rd. | 4th. |
|---|---|---|---|
| $ 31.81 | $ 34.34 | $ 37.52 | $ 41.94 |

8-740.1

## Carpenter — 08/01/2026

**JOB DESCRIPTION** Carpenter **DISTRICT** 8

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**
Per Hour:

| | 07/01/2026 |
|---|---|
| Timberman | $ 57.59 |
| | + 10.42* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

**SUPPLEMENTAL BENEFITS**
Per Hour:
$ 46.79

**OVERTIME PAY**
See (B, E, E2, Q) on OVERTIME PAGE

**HOLIDAY**
Overtime: See (5, 6, 11, 13, 25) on HOLIDAY PAGE
Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.
Apprentices See (5,6,11,13,25)

Overtime: See (5,6,11,13,25) on HOLIDAY PAGE.

**REGISTERED APPRENTICES**
Wages per hour:
One ( 1 ) year terms:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 26.96 | $ 32.07 | $ 39.72 | $ 47.38 |
| + 5.71* | + 5.71* | + 5.71* | + 5.71* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental benefits per hour:
All terms $ 33.78

8-1556 Tm

## Carpenter — 08/01/2026

**JOB DESCRIPTION** Carpenter **DISTRICT** 8

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Westchester

**PARTIAL COUNTIES**
Orange: South of but including the following, Waterloo Mills, Slate Hill, New Hampton, Goshen, Blooming Grove, Mountainville, east to the Hudson River.
Putnam: South of but including the following, Cold Spring, TompkinsCorner, Mahopac, Croton Falls, east to Connecticut border.
Suffolk: West of Port Jefferson and Patchogue Road to Route 112 to the Atlantic Ocean.

**WAGES**

| Per hour: | 07/01/2026 | 10/18/2026 |
|---|---|---|
| Core Drilling: | | |
| Driller | $ 48.78 | Additional |
| | + 3.85* | + $2.63 |
| Driller Helper | $ 38.15 | |
| | + 3.85* | |

Note: Hazardous Waste Pay Differential:
For Level C, an additional 15% above wage rate per hour
For Level B, an additional 15% above wage rate per hour
For Level A, an additional 15% above wage rate per hour
Note: Additional $3.00 per hour to be paid when required to work on water

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

**SUPPLEMENTAL BENEFITS**
Per hour:

Driller and Helper $ 32.37

**OVERTIME PAY**
See (B, G, P) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 13, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 13, 25) on HOLIDAY PAGE

8-1536-CoreDriller

## Carpenter - Building / Heavy&Highway — 08/01/2026

**JOB DESCRIPTION** Carpenter - Building / Heavy&Highway **DISTRICT** 11

**ENTIRE COUNTIES**
Putnam, Rockland, Westchester

**WAGES**
WAGES:(per hour)
Applies to CARPENTER BUILDING/HEAVY & HIGHWAY/TUNNEL:

| | 07/01/2026 |
|---|---|
| Base Wage | $ 43.68 |
| | +$6.69* |

*For all hours paid straight or premium.

**SHIFT WORK**
SHIFT DIFFERENTIAL: When it is mandated by a Government Agency irregular or off shift can be worked. The Carpenter shall receive an additional fifteen percent (15%) of wage plus applicable benefits.

**SUPPLEMENTAL BENEFITS**
Per hour:

Journeyworker $ 33.11

**OVERTIME PAY**
See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**
BUILDING:
Paid: See ( 1 ) on HOLIDAY PAGE.

Overtime: See ( 5, 6, 16, 25 ) on HOLIDAY PAGE.
- Holidays that fall on Sunday will be observed Monday.

HEAVY&HIGHWAY/TUNNEL:
Paid: See ( 5, 6, 25 ) on HOLIDAY PAGE
Overtime: See ( 5, 6 ) on HOLIDAY PAGE
- Holidays that fall on Sunday will be observed Monday
- Must be employed during the five (5) work days immediately preceding a holiday or during the five (5) work days following the paid holiday to receive holiday pay
- If an employee is entitled to a paid holiday, the employee is paid the Holiday wage and supplemental benefits whether they work or not. If an employee works the Holiday, the employee will receive holiday pay (including supplemental benefits), plus the applicable premium wage for working the Holiday. If an employee works in excess of 8 hours on Holiday, then benefits will be paid for any hours in excess of 8 hours.

**REGISTERED APPRENTICES**
1 year terms at the following wage rates:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 21.84 | $ 26.21 | $ 30.58 | $ 34.94 |
| +3.86* | +3.86* | +3.86* | +3.86* |

*For all hours paid straight or premium

SUPPLEMENTAL BENEFITS per hour:

All terms $ 17.76

11-279.1B/HH

## Electrician — 08/01/2026

**JOB DESCRIPTION** Electrician **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, New York, Queens, Richmond, Westchester

**WAGES**

| Per hour: | 07/01/2026 | 03/12/2027 |
|---|---|---|
| Service Technician | $ 39.45 | $ 40.45 |

Service and Maintenance on Alarm and Security Systems.

Maintenance, repair and /or replacement of defective (or damaged) equipment on, but not limited to, Burglar - Fire - Security - CCTV - Card Access - Life Safety Systems and associated devices. (Whether by service contract of T&M by customer request.)

**SUPPLEMENTAL BENEFITS**

| Per hour: | | |
|---|---|---|
| Journeyworker: | $ 23.33 | $ 24.11 |

**OVERTIME PAY**
See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 11, 15, 16, 17, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 17, 25, 26) on HOLIDAY PAGE

9-3H

## Electrician 08/01/2026

**JOB DESCRIPTION** Electrician **DISTRICT** 8

**ENTIRE COUNTIES**
Westchester

**WAGES**

| Per hour: | 07/01/2026 | 04/15/2027 |
|---|---|---|
| Electrician/A-Technician | $ 58.75 | $ 60.75 |
| Teledata | 58.75 | 60.75 |

See "M" rate for all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls.

Note: On a job where employees are required to work on bridges over navigable waters, transmission towers, light poles, bosun chairs, swinging scaffolds , etc. 40 feet or more above the water or ground or under compressed air, or tunnel projects under construction or where assisted breathing apparatus is required, they will be paid at the rate of time and one-half for such work except on normal pole line or building construction work.

**SUPPLEMENTAL BENEFITS**

| Per hour: | | |
|---|---|---|
| Journeyworker | $ 65.07 | $ 67.55 |

**OVERTIME PAY**
See (A, G, *J, P) on OVERTIME PAGE
*NOTE: Emergency work on Sunday and Holidays is at the time and one-half overtime rate.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE
Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

**REGISTERED APPRENTICES**
(1) year terms at the following wage rates:

| | 07/01/2026 | 04/15/2027 |
|---|---|---|
| 1st term | $ 18.00 | $ 18.00 |
| 2nd term | 19.50 | 19.50 |
| 3rd term | 21.00 | 21.00 |
| 4th term | 22.50 | 22.50 |
| MIJ 1-12 months | 28.25 | 28.25 |

| | | |
|---|---|---|
| MIJ 13-18 months | 31.75 | 31.75 |

Supplemental Benefits per hour:

| | 07/01/2026 | 04/15/2027 |
|---|---|---|
| 1st term | $ 15.23 | $ 15.73 |
| 2nd term | 18.75 | 19.25 |
| 3rd term | 19.77 | 20.27 |
| 4th term | 20.78 | 21.28 |
| MIJ 1-12 months | 16.56 | 17.06 |
| MIJ 13-18 months | 17.02 | 17.52 |

8-3/W

## Electrician — 08/01/2026

**JOB DESCRIPTION** Electrician **DISTRICT** 8

**ENTIRE COUNTIES**
Westchester

**WAGES**
Per hour

| | 07/01/2026 | 04/15/2027 |
|---|---|---|
| Electrician - M | $ 34.25 | $ 34.25 |

"M" rate for all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls.

**SUPPLEMENTAL BENEFITS**

| | 07/01/2026 | 04/15/2027 |
|---|---|---|
| Electrician - M | $ 17.35 | $ 17.85 |

**OVERTIME PAY**
See (B, G, *J, P) on OVERTIME PAGE
*Note: Emergency work on Sunday and Holidays is at the time and one-half overtime rate.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE
Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

8-3m

## Elevator Constructor — 08/01/2026

**JOB DESCRIPTION** Elevator Constructor **DISTRICT** 4

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

**PARTIAL COUNTIES**
Rockland: Entire County except for the Township of Stony Point
Westchester: Entire County except for the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

**WAGES**
Per hour:

| | 07/01/2026 | 03/17/2027 |
|---|---|---|
| Elevator Constructor | $ 86.43 | $ 89.76 |
| Modernization & Service/Repair | $ 68.06 | $ 70.72 |

**SUPPLEMENTAL BENEFITS**
Per Hour:

| | | |
|---|---|---|
| Elevator Constructor | $ 48.96 | $ 50.27 |

| | | |
|---|---|---|
| Modernization & Service/Repairs | $ 47.73 | $ 49.00 |

**OVERTIME PAY**
Constructor See ( D, M, T ) on OVERTIME PAGE.

Modern/Service See ( B, E5, P ) on OVERTIME PAGE.

**HOLIDAY**
Paid: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
WAGES PER HOUR:

6 MONTH TERMS:

| 1st Term* | 2nd & 3rd Term* | 4th & 5th Term | 6th & 7th Term | 8th & 9th Term |
|---|---|---|---|---|
| 50% | 50% | 55% | 65% | 75% |

* Note: 1st, 2nd, 3rd Terms are based on average of the Constructor, the Modernization and the Service/Repair wage.
Terms 4 thru 9 Based on the Journeyworker's wage of classification they are working in.

SUPPLEMENTAL BENEFITS:

| | 07/01/2026 | 03/17/2027 |
|---|---|---|
| Elevator Constructor | | |
| 1st Term | $0.00 | $ 0.00 |
| 2nd & 3rd Term | 37.66 | 38.42 |
| 4th & 5th Term | 38.80 | 39.62 |
| 6th & 7th Term | 40.60 | 41.50 |
| 8th & 9th Term | 42.39 | 43.39 |
| Modernization & Service/Repair | | |
| 1st Term | $0.00 | $ 0.00 |
| 2nd & 3rd Term | 37.63 | 38.39 |
| 4th & 5th Term | 38.37 | 39.17 |
| 6th & 7th Term | 40.09 | 40.98 |
| 8th & 9th Term | 41.81 | 42.79 |



## Elevator Constructor — 08/01/2026

**JOB DESCRIPTION** Elevator Constructor **DISTRICT** 1

**ENTIRE COUNTIES**
Columbia, Dutchess, Greene, Orange, Putnam, Sullivan, Ulster

**PARTIAL COUNTIES**
Delaware: Towns of Andes, Bovina, Colchester, Davenport, Delhi, Harpersfield, Hemdon, Kortright, Meredith, Middletown, Roxbury, Hancock & Stamford
Rockland: Only the Township of Stony Point.
Westchester: Only the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

**WAGES**

| Per Hour | 07/01/2026 | 01/01/2027 |
|---|---|---|
| Mechanic | $ 76.12 | $ 79.37 |
| Helper | 70% of Mechanic Wage Rate | 70% of Mechanic Wage Rate |

**SUPPLEMENTAL BENEFITS**
Per hour

| | | |
|---|---|---|
| Journeyworker | $ 38.985* | $ 39.535* |

*NOTE: Add 6% of regular hourly rate for all hours worked. Add 8% of regular hourly rate if more than 5 years of service.

**OVERTIME PAY**
See (D, O) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

Note: When a paid holiday falls on Saturday, it shall be observed on Friday. When a paid holiday falls on Sunday, it shall be observed on Monday.

**REGISTERED APPRENTICES**
WAGES per hour: 1 year terms at the following percentage of the Elevator Constructor Mechanic wage.

| 0-6 months | 6-12 months | 2nd year | 3rd year | 4th year |
|---|---|---|---|---|
| 50% | 55% | 65% | 70% | 80% |

SUPPLEMENTAL BENEFITS per hour:

0-6 months: 6% of the regular hourly apprentice rate paid, no additional supplemental benefits.

All other terms: Same as Journeyworker

1-138

## Glazier — 08/01/2026

**JOB DESCRIPTION** Glazier **DISTRICT** 8

**ENTIRE COUNTIES**
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

**WAGES**
Per hour:

| | 07/01/2026 | 11/01/2026 |
|---|---|---|
| Glazier | $ 66.22 | $ 67.20 |
| Scaffolding, including swing scaffold | 71.22 | 72.20 |
| *Mechanical Equipment | 67.23 | 68.20 |
| **Repair & Maintenance | 32.82 | 33.47 |

*Mechanical equipment, scissor jacks, man lifts, booms & buckets 30' or more, but not pipe scaffolding.
**Repair & Maintenance- All repair & maintenance work on a particular building whenever performed, where the total cumulative Repair & Maintenance contract value is under $202,000.

**SUPPLEMENTAL BENEFITS**
Per hour:

| | | |
|---|---|---|
| Glazier, Scaffolding and Mechanical Equipment | $ 44.81 | $ 45.74 |
| Repair & Maintenance | $ 26.01 | $26.37 |

**OVERTIME PAY**
See (B, E, Q, V) on OVERTIME PAGE
For 'Repair & Maintenance' see (B, B2, I, S) on overtime page.

**HOLIDAY**
Paid: See (5, 6, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE
For 'Repair & Maintenance'
Paid: See(5, 6, 16, 25)
Overtime: See(5, 6, 16, 25)

**REGISTERED APPRENTICES**
Wage per hour:
(1) year terms at the following wage rates:

| | 07/01/2026 | 11/01/2026 |
|---|---|---|
| 1st term | $ 23.68 | $ 24.06 |
| 2nd term | 32.23 | 32.74 |
| 3rd term | 42.89 | 43.55 |
| 4th term | 52.47 | 53.23 |

Supplemental Benefits:
(Per hour)

| | | |
|---|---|---|
| 1st term | $ 20.18 | $ 20.56 |
| 2nd term | 28.85 | 29.39 |
| 3rd term | 34.77 | 35.45 |
| 4th term | 38.18 | 38.95 |

8-1087 (DC9 NYC)

## Insulator - Heat & Frost — 08/01/2026

**JOB DESCRIPTION** Insulator - Heat & Frost **DISTRICT** 8

**ENTIRE COUNTIES**
Dutchess, Orange, Putnam, Rockland, Westchester

**WAGES**

| Per hour: | 07/01/2026 |
|---|---|
| Insulator/Fire Stop Work* | $ 64.27 |
| Discomfort & Additional Training** | 67.32 |

*Applies on all exclusive Fire Stop Work (When contract is for Fire Stop work only). No apprentices on these contracts only.

**Applies to work requiring; garb or equipment worn against the body not customarily worn by insulators; psychological evaluation ;special training, including but not limited to "Yellow Badge" radiation training

Note: Additional $10 a day for work 30 feet or more above floor or ground level.

**SUPPLEMENTAL BENEFITS**

| Per hour: | |
|---|---|
| Insulator/Fire Stop Journeyworker: | $ 39.85 |
| Discomfort & Additional Training: | $ 41.89 |

**OVERTIME PAY**
See (B, E, E2, Q) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Note: Last working day preceding Christmas and New Years day, workers shall work no later than 12:00 noon and shall receive 8 hrs pay.

Overtime: See ( 2*, 4, 6, 16, 25 ) on HOLIDAY PAGE.
*Note: Labor Day triple time if worked.

**REGISTERED APPRENTICES**
(1) year terms:

Insulator Apprentices:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 35.09 | $ 40.92 | $ 46.76 | $ 52.60 |

Discomfort & Additional Training Apprentices:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 36.61 | $ 42.75 | $ 48.89 | $ 55.04 |

Supplemental Benefits paid per hour:

Insulator Apprentices:

| | |
|---|---|
| 1st term | $ 20.33 |
| 2nd term | 24.23 |
| 3rd term | 28.13 |
| 4th term | 32.05 |

Discomfort & Additional Training Apprentices:

| | |
|---|---|
| 1st term | $ 21.34 |
| 2nd term | 25.46 |
| 3rd term | 29.56 |

| | |
|---|---|
| 4th term | 33.68 |

8-91

**Ironworker** **08/01/2026**

**JOB DESCRIPTION** Ironworker **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

| Per Hour: | 07/01/2026 | 01/01/2027 Additional |
|---|---|---|
| Stone Derrickmen Rigger | $ 78.46 | $ 1.84 |
| Stone Handset Derrickman | $ 76.51 | $ 1.64 |

**SUPPLEMENTAL BENEFITS**

| Per hour: | |
|---|---|
| Stone Derrickmen Rigger | $ 49.02 |
| Stone Handset Derrickman | $ 48.01 |

**OVERTIME PAY**
See (B, D1, *E, Q, **V) on OVERTIME PAGE
*Time and one-half shall be paid for all work on Saturday up to eight (8) hours and double time shall be paid for all work thereafter.
** Benefits same premium as wages on Holidays only

**HOLIDAY**
Paid: See (18) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 25) on HOLIDAY PAGE
Work stops at schedule lunch break with full day's pay.

**REGISTERED APPRENTICES**
Wage per hour:

Stone Derrickmen Rigger:

| | 1st | 2nd | 3rd | 4th |
|---|---|---|---|---|
| 07/01/2026 | $ 38.98 | $ 55.17 | $ 61.37 | $ 67.56 |

Supplemental Benefits:
Per hour:

| | | | | |
|---|---|---|---|---|
| 07/01/2026 | $ 24.77 | $ 37.34 | $ 37.34 | $ 37.34 |

Stone Handset:

1/2 year terms at the following hourly wage rate:

| | 1st | 2nd | 3rd | 4th |
|---|---|---|---|---|
| 07/01/2026 | $ 37.51 | $ 53.51 | $ 59.51 | $ 65.51 |

Supplemental Benefits:
Per hour:

| | | | | |
|---|---|---|---|---|
| 07/01/2026 | $ 24.75 | $ 36.90 | $ 36.90 | $ 36.90 |

9-197D/R

**Ironworker** **08/01/2026**

**JOB DESCRIPTION** Ironworker **DISTRICT** 4

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

| Per Hour: | 07/01/2026 | 01/01/2027 Additional |
|---|---|---|
| Ornamental | $ 48.65 | $ 1.05* |
| Chain Link Fence | 48.65 | |

Guide Rail 48.65

* To be allocated at a later date.

**SUPPLEMENTAL BENEFITS**
Per hour:
Journeyworker: $ 68.84

**OVERTIME PAY**
See (B, B1, Q, V) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
1 year terms at the following wages per hour:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 25.98 | $ 28.45 | $ 30.80 | $ 34.39 |

Supplemental Benefits per hour:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 17.29 | $ 18.29 | $ 19.29 | $ 21.29 |

4-580-Or

## Ironworker — 08/01/2026

**JOB DESCRIPTION** Ironworker **DISTRICT** 4

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**
PER HOUR:

| | 07/01/2026 | 01/01/2027 |
|---|---|---|
| Ironworker: | | Additional |
| Structural, Bridges, Machinery | $ 59.45 | 1.38* |

* To be allocated at a later date.

**SUPPLEMENTAL BENEFITS**
Per hour paid:

Journeyman $ 95.26

**OVERTIME PAY**
See (B, B1, Q, *V) on OVERTIME PAGE
*NOTE: Benefits are calculated for every hour paid.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 18, 19) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
6 month terms at the following wages per hour:

| | 1st | 2nd | 3rd-6th |
|---|---|---|---|
| 07/01/2026 | $ 30.87 | $ 31.47 | $ 32.08 |

Supplemental Benefits

PER HOUR PAID: $ 69.08

4-40/361-Str

## Ironworker — 08/01/2026

**JOB DESCRIPTION** Ironworker **DISTRICT** 4

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**PARTIAL COUNTIES**
Rockland: Southern section - south of Convent Road and east of Blue Hills Road.

**WAGES**

| Per hour: | 07/01/2026 |
|---|---|
| Reinforcing & Metal Lathing: | $ 58.85 |

**SUPPLEMENTAL BENEFITS**

| Per hour: | |
|---|---|
| Reinforcing & Metal Lathing | $ 46.42 |

**OVERTIME PAY**
See (B, E, Q, *X) on OVERTIME PAGE
Wages Per Hour:

| | |
|---|---|
| At Time & One Half | $ 87.35 |
| At Double Time | 115.85 |

Supplemental Benefit Premiums for Overtime Hours worked:

| | |
|---|---|
| At Time & One Half | $ 52.77 |
| At Double Time | 59.27 |

*Only $24.00 per hour for non worked hours

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 11, 13, 20, 21, 22, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
(1) year terms at the following Wages Per Hour:

| | 1st | 2nd | 3rd | 4th |
|---|---|---|---|---|
| Straight time | $ 22.55 | $ 25.00 | $ 28.00 | $ 30.00 |
| At Time & One Half | 33.05 | 36.60 | 41.10 | 44.10 |
| At Double Time | 46.65 | 51.80 | 57.80 | 61.80 |

SUPPLEMENTAL BENEFITS Per Hour:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 18.17 | $ 18.22 | $ 17.22 | $ 17.22 |

4-46Reinf

## Laborer - Building — 08/01/2026

**JOB DESCRIPTION** Laborer - Building **DISTRICT** 8

**ENTIRE COUNTIES**
Putnam, Westchester

**WAGES**

| Per hour | 07/01/2026 |
|---|---|
| Laborer | $ 46.26 |
| "Base Wage" | $ 46.16** |
| Laborer/Asbestos & Hazardous Materials Removal | $ 50.35* |
| "Base Wage" | $ 50.25** |

* Abatement/Removal of:
- Lead based or lead containing paint on materials to be repainted is classified as Painter.
- Asbestos containing roofs and roofing material is classified as Roofer.

** Overtime premiums are calculated using Laborer "Base Wage"

NOTE: Upgrade/Material condition work plan for work performed during non-outage under a wage formula of 90% wage/100% fringe benefits at nuclear power plants.

**SUPPLEMENTAL BENEFITS**

| Per hour: | 07/01/2026 |
|---|---|
| Journeyworker | $ 34.10 |

**OVERTIME PAY**
See (B, E, E2, Q, *V) on OVERTIME PAGE
*Note: For Sundays and Holidays worked benefits are at the same premium as wages.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE
Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

**REGISTERED APPRENTICES**
LABORER ONLY
Hourly terms at the following wage:

| | Level A | Level B | Level C | Level D |
|---|---|---|---|---|
| | 0-1000 | 1001-2000 | 2001-3000 | 3001-4000 |
| 07/01/2026 | $ 30.60 | $ 35.35 | $ 40.05 | $ 42.05 |

Supplemental Benefits per hour:

| Apprentices | |
|---|---|
| All terms | $ 25.95 |

8-235/B

**Laborer - Heavy&Highway** **08/01/2026**

**JOB DESCRIPTION** Laborer - Heavy&Highway **DISTRICT** 8

**ENTIRE COUNTIES**
Putnam, Westchester

**WAGES**
**PUTNAM: APPLIES TO ALL HEAVY & HIGHWAY WORK EXCLUDING HIGHWAYS, STREETS, AND BRIDGES**

GROUP I: Blaster, Quarry Master, Curbs/Asphalt Screedman, Pipe Jacking and Boring Operations Operator, Qualified Dead Condition Pipe Fuser (B Mechanic)

GROUP II: Burner, Drillers(jumbo, joy, wagon, air track, hydraulic), Drill Operator, Self Contained Rotary Drill, Curbs, Raker, Bar Person, Concrete Finisher.

GROUP III: Pavement Breakers, Jeeper Operator, Jack Hammer, Pneumatic Tools (all), Gas Driller, Guniting, Railroad Spike Puller, Pipelayer, Chain Saw, Deck winches on scows, Power Buggy Operator, Power Wheelbarrow Operator, Bar Person Helper, Compressed Airlance, Water Jet Lance.

GROUP IV: Concrete Laborers, Asph. Worker, Rock Scaler, Vibrator Oper., Bit Grinder, Air Tamper, Pumps, Epoxy (adhesives, fillers and troweled on), Barco Rammer, Concrete Grinder, Crack Router Operator, Guide Rail-digging holes and placing concrete and demolition when not to be replaced, distribution of materials and tightening of bolts.

GROUP V: Drillers Helpers, Common Laborer, Mason Tenders, Signal Person, Pit Person, Truck Spotter, Powder Person, Landscape/Nursery Person, Dump Person, Temp. Heat.

GROUP VIA: Asbestos/Toxic Waste Laborer-All removal (Roads, Tunnels, Landfills, etc.) Confined space laborer, Bio-remediation, Phyto-remediation, Lead or Hazardous material, Abatement Laborer.

| Wages:(per hour) | 07/01/2026 |
|---|---|
| GROUP I | $ 53.95* |
| GROUP II | 52.49* |
| GROUP III | 52.05* |
| GROUP IV | 51.68* |
| GROUP V | 51.30* |

| | |
|---|---|
| GROUP VIA | 53.46* |
| Operator Qualified | |
| Gas Mechanic(A Mech) | 64.76* |
| Operator Qualified | |
| Gas Mechanic(1st yr.) | 57.95* |
| Flagperson | 44.43* |

*NOTE: To calculate overtime premiums, deduct $0.12 from above wages

**SHIFT WORK**
A shift premium will be paid on Public Work contracts for off-shift or irregular shift work when mandated by the NYS D.O.T. or other Governmental Agency contracts. Employees shall receive an additional 15% per hour above current rate for all off-shift and irregular shift work. Premium pay shall be calculated using the 15% per hour differential as base rate.

**SUPPLEMENTAL BENEFITS**
Per hour:
Journeyworker: $ 30.58

**OVERTIME PAY**
See (B, E, P, R, S) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE
NOTE: For Holiday Overtime: 5, 6 - Code 'S' applies
For Holiday Overtime: 8, 15, 25, 26 - Code 'R' applies

**REGISTERED APPRENTICES**

| 1st term | 2nd term | 3rd term | 4th term |
|---|---|---|---|
| 1-1000hrs | 1001-2000hrs | 2001-3000hrs | 3001-4000hrs |
| $ 33.35 | $ 38.48 | $ 43.61 | $ 48.74 |

Supplemental Benefits per hour:
$ 26.42

8-60H/H

## Laborer - Tunnel — 08/01/2026

**JOB DESCRIPTION** Laborer - Tunnel **DISTRICT** 11

**ENTIRE COUNTIES**
Columbia, Dutchess, Greene, Orange, Otsego, Putnam, Rockland, Sullivan, Ulster, Westchester

**PARTIAL COUNTIES**
Chenango: Townships of Columbus, Sherburne and New Berlin.
Delaware: Townships of Andes, Bovina, Middletown, Roxbury, Franklin, Hamden, Stamford, Delhi, Kortright, Harpersfield, Merideth and Davenport.

**WAGES**
Class 1: All support laborers/sandhogs working above the shaft or tunnel.

Class 2: All laborers/sandhogs working in the shaft or tunnel.

Class 4: Safety Miners

Class 5: Site work related to Shaft/Tunnel

WAGES: (per hour)

| | 07/01/2026 |
|---|---|
| Class 1 | $ 60.30 |
| Class 2 | 62.45 |
| Class 4 | 68.85 |
| Class 5 | 53.15 |

Toxic and hazardous waste, lead abatement and asbestos abatement work will be paid an additional $ 3.00 an hour.

**SUPPLEMENTAL BENEFITS**
Per hour:

| | |
|---|---|
| Benefit 1 | $ 39.23 |
| Benefit 2 | 55.66 |
| Benefit 3 | 72.08 |

Benefit 1 applies to straight time hours, paid holidays not worked.
Benefit 2 applies to over 8 hours in a day (M-F) and Saturday hours worked.
Benefit 3 applies to Sunday and Holiday hours worked.

**OVERTIME PAY**
See (B, E, Q, X) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE
When a recognized Holidays falls on Saturday or Sunday, holidays falling on Saturday shall be recognized or observed on Friday and holidays falling on Sunday shall be recognized or observed on Monday. Employees ordered to work on the Saturday or Sunday of the holiday or on the recognized or the observed Friday or Monday for those holidays falling on Saturday or Sunday shall receive double time the established rate and benefits for the holiday.

**REGISTERED APPRENTICES**
FOR APPRENTICE RATES, refer to the appropriate Laborer Heavy & Highway wage rate contained in the wage schedule for the County and location where the work is to be performed.

11-17/60/235/754Tun

## Lineman Electrician — 08/01/2026

**JOB DESCRIPTION** Lineman Electrician **DISTRICT** 6

**ENTIRE COUNTIES**
Westchester

**WAGES**
A Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors, assembly of all electrical materials, conduit, pipe or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

Crane Operators: Operation of any type of crane on line projects.
Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on line projects.
Digging Machine Operator: All other digging equipment and augering on line projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator equipment/operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines. Also includes digging of holes for poles, anchors, footer, and foundations for electrical equipment.

-----Below rates applicable on all electrical overhead and underground distribution and maintenance work and overhead and underground transmission line work, electrical substations, switching structures, continuous pipe-type underground fluid or gas filled transmission conduit and cable installations, maintenance jobs or projects, railroad catenary installations and maintenance, third rail installations, the bonding of rails and the installation of fiber optic cable. Includes access matting for line work.

| Per hour: | 07/01/2026 | 05/03/2027 | 05/01/2028 |
|---|---|---|---|
| Group A: | | | |
| Lineman, Tech, Welder | $ 67.64 | $ 70.24 | $ 73.01 |
| Crane, Crawler Backhoe | 67.64 | 70.24 | 73.01 |
| Cable Splicer-Pipe Type | 74.40 | 77.26 | 80.31 |
| Cert. Welder-Pipe Type | 71.02 | 73.75 | 76.66 |
| Group B: | | | |
| Digging Mach Operator | $ 60.88 | $ 63.22 | $ 65.71 |
| Group C: | | | |
| Tractor Trailer Driver | $ 57.49 | $ 59.70 | $ 62.06 |
| Groundman, Truck Driver | 54.11 | 56.19 | 58.41 |
| Equipment Mechanic | 54.11 | 56.19 | 58.41 |
| Group D: | | | |
| Flagger | $ 37.20 | $ 38.63 | $ 40.16 |

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 3, 2027.

**SHIFT WORK**

The following rates will apply on all contracting agency mandated multiple shifts of at least five (5) days duration worked between the hours listed below:

| | |
|---|---|
| 1ST SHIFT | 8:00 AM TO 4:30 PM REGULAR RATE |
| 2ND SHIFT | 4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3% |
| 3RD SHIFT | 12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4% |

**SUPPLEMENTAL BENEFITS**

Per hour:

| | 07/01/2026 | 05/03/2027 | 05/01/2028 |
|---|---|---|---|
| Group A | $ 32.91* | $ 34.41* | $ 35.91* |
| Group B | $ 28.91* | $ 30.41* | $ 31.91* |
| Group C | $ 28.51* | $ 29.71* | $ 30.91* |
| Group D | $ 28.41* | $ 29.54* | $ 30.67* |

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

**OVERTIME PAY**

See ( B, E, Q, X) on OVERTIME PAGE. NOTE: Double time for emergency work designated by the Contracting Agency.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

**HOLIDAY**

| | |
|---|---|
| Paid | See ( 5, 6, 8, 15, 25 ) on HOLIDAY PAGE |
| Overtime | See ( 5, 6, 8, 15, 25 ) on HOLIDAY PAGE |

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

**REGISTERED APPRENTICES**

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
|---|---|---|---|---|---|---|
| 60% | 65% | 70% | 75% | 80% | 85% | 90% |

SUPPLEMENTAL BENEFITS per hour:

| | 07/01/2026 | 05/03/2027 | 05/01/2028 |
|---|---|---|---|
| All terms: | $ 28.41* | $ 29.54* | $ 30.67* |

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

6-1249aWest

## Lineman Electrician - Teledata — 08/01/2026

**JOB DESCRIPTION** Lineman Electrician - Teledata **DISTRICT** 6

**ENTIRE COUNTIES**

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

**WAGES**

NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to LL 224-E,solicited prior to July 1, 2025. For all projects, excluding dial-up internet access service, solicited on or after July 1, 2025, please see BROADBAND

| Per hour: | 07/01/2026 | 01/04/2027 | 01/03/2028 | 01/01/2029 |
|---|---|---|---|---|
| Cable Splicer | $ 42.03 | $ 43.30 | $ 44.59 | $ 45.93 |
| Installer, Repairman | 39.89 | 41.09 | 42.32 | 43.59 |
| Teledata Lineman | 39.89 | 41.09 | 42.32 | 43.59 |
| Tech., Equip. Operator | 39.89 | 41.09 | 42.32 | 43.59 |
| Groundman/Flagger | 21.14 | 21.78 | 22.43 | 23.10 |

For outside work, stopping at first point of attachment (demarcation).

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work, please see LINEMAN.

**SHIFT WORK**
The following rates apply when the contracting agency mandates multiple shifts of at least five (5) days duration are worked. When two (2) or three (3) shifts are worked the following rates apply:

| | |
|---|---|
| 1ST SHIFT | REGULAR RATE |
| 2ND SHIFT | REGULAR RATE PLUS 10% |
| 3RD SHIFT | REGULAR RATE PLUS 15% |

**SUPPLEMENTAL BENEFITS**
Per hour:

| | | | | |
|---|---|---|---|---|
| Journeyworker | $ 6.18 plus 4%* | $ 6.43 plus 5%* | $ 6.43 plus 6%* | $ 6.68 plus 7%* |

*NOTE: The percentage (%) listed above is based on the hourly wage paid, straight time rate or premium time rate.

**OVERTIME PAY**
See (B, E, Q) on OVERTIME PAGE
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

## Lineman Electrician - Traffic Signal, Lighting — 08/01/2026

**JOB DESCRIPTION** Lineman Electrician - Traffic Signal, Lighting **DISTRICT** 6

**ENTIRE COUNTIES**
Westchester

**WAGES**
Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

Crane Operators: Operation of any type of crane on Traffic Signal/Lighting projects.
Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on Traffic Signal/Lighting projects.
Digging Machine Operator: All other digging equipment and augering on Traffic Signal/Lighting projects.

A Groundman/Groundman Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.

| Per hour: | 07/01/2026 | 05/03/2027 | 05/01/2028 |
|---|---|---|---|
| Group A: | | | |
| Lineman, Technician | $ 61.18 | $ 63.52 | $ 66.01 |
| Crane, Crawler Backhoe | 61.18 | 63.52 | 66.01 |
| Certified Welder | 64.24 | 66.70 | 69.31 |
| Group B: | | | |
| Digging Machine | $ 55.06 | $ 57.17 | $ 59.41 |
| Group C: | | | |
| Tractor Trailer Driver | $ 52.00 | $ 53.99 | $ 56.11 |
| Groundman, Truck Driver | 48.94 | 50.82 | 52.81 |
| Equipment Mechanic | 48.94 | 50.82 | 52.81 |
| Group D: | | | |

| | | | |
|---|---|---|---|
| Flagger | $ 36.71 | $ 38.11 | $ 39.61 |

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

**SHIFT WORK**
The following rates will apply on all contracting agency mandated multiple shifts of at least five (5) days duration worked between the hours listed below:

| | |
|---|---|
| 1ST SHIFT | 8:00 AM TO 4:30 PM REGULAR RATE |
| 2ND SHIFT | 4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3% |
| 3RD SHIFT | 12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4% |

**SUPPLEMENTAL BENEFITS**
Per hour:

| | 07/01/2026 | 05/03/2027 | 05/01/2028 |
|---|---|---|---|
| Group A | $ 32.91* | $ 34.41* | $ 35.91* |
| Group B | $ 28.91* | $ 30.41* | $ 31.91* |
| Group C | $ 28.51* | $ 29.71* | $ 30.91* |
| Group D | $ 28.41* | $ 29.54* | $ 30.67* |

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

**OVERTIME PAY**
See (B, E, Q, X) on OVERTIME PAGE. NOTE: Double time for emergency work designated by the Contracting Agency.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

**HOLIDAY**
Paid: See ( 5, 6, 8, 15, 25 ) on HOLIDAY PAGE
Overtime: See ( 5, 6, 8, 15, 25 ) on HOLIDAY PAGE
NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

**REGISTERED APPRENTICES**
WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
|---|---|---|---|---|---|---|
| 60% | 65% | 70% | 75% | 80% | 85% | 90% |

SUPPLEMENTAL BENEFITS per hour:

| | 07/01/2026 | 05/03/2027 | 05/01/2028 |
|---|---|---|---|
| All terms: | $ 28.41* | $ 29.54* | $ 30.67* |

*NOTE: Plus 7% of the hourly wage paid. The 7% is based on the straight time rate or the premium time rate.

6-1249aWestLT

## Mason - Building — 08/01/2026

**JOB DESCRIPTION** Mason - Building **DISTRICT** 11

**ENTIRE COUNTIES**
Putnam, Rockland, Westchester

**PARTIAL COUNTIES**
Orange: Only the Township of Tuxedo.

**WAGES**
Per hour:

| | 07/01/2026 |
|---|---|
| Bricklayer | $ 50.15 |
| Cement Mason | 50.15 |
| Plasterer/Stone Mason | 50.15 |
| Pointer/Caulker | 50.15 |

Additional $1.00 per hour for power saw work
Additional $0.50 per hour for swing scaffold or staging work

**SHIFT WORK**
SHIFT WORK: When shift work or an irregular workday is mandated or required by state, federal, county, local or other governmental agency contracts, the following premiums apply:
Irregular workday requires 15% premium
Second shift an additional 15% of wage plus benefits to be paid
Third shift an additional 25% of wage plus benefits to be paid

**SUPPLEMENTAL BENEFITS**
Per hour:

| | |
|---|---|
| Journeyworker | $ 40.15 |

**OVERTIME PAY**
OVERTIME:

| | |
|---|---|
| Cement Mason | See ( B, E, Q, W ) on OVERTIME PAGE. |
| All Others | See ( B, E, E2, Q ) on OVERTIME PAGE. |

**HOLIDAY**

| | |
|---|---|
| Paid: | See (1) on HOLIDAY PAGE |
| Overtime: | See (5, 6, 16, 25) on HOLIDAY PAGE |

Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

**REGISTERED APPRENTICES**
Wages per hour:

750 hour terms at the following percentage of Journeyworker's wage

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|---|---|---|---|---|---|---|---|
| 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% |

Supplemental Benefits per hour

750 hour terms at the following percentage of Journeyworker supplements

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|---|---|---|---|---|---|---|---|
| 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% |

11-5wp-b

## Mason - Building — 08/01/2026

**JOB DESCRIPTION** Mason - Building **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**
Building

| Wages per hour: | 07/01/2026 | 01/01/2027 Additional |
|---|---|---|
| Mosaic & Terrazzo Mechanic | $ 62.82 | $ 1.06 |
| Mosaic & Terrazzo Finisher | 61.22 | |

**SUPPLEMENTAL BENEFITS**
Per hour:

| | |
|---|---|
| Mosaic & Terrazzo Mechanic | $ 31.91*<br>+ $11.63 |
| Mosaic & Terrazzo Finisher | $ 31.91*<br>+ 11.61 |

*This portion of benefits subject to same premium rate as shown for overtime wages.

**OVERTIME PAY**
See (A, E, Q) on OVERTIME PAGE
Deduct $7.00 from hourly wages before calculating overtime.

**HOLIDAY**

| | |
|---|---|
| Paid: | See (1) on HOLIDAY PAGE |
| Overtime: | See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE |

Easter Sunday is an observed holiday.Holidays falling on a Saturday will be observed on that Saturday. Holidays falling on a Sunday will be celebrated on the Monday.

**REGISTERED APPRENTICES**

Wages Per hour:

| | 1st 0-1500 | 2nd 1501-3000 | 3rd 3001-3750 | 4th 3751-4500 | 5th 4501-5250 | 6th 5251-6000 |
|---|---|---|---|---|---|---|
| 07/01/2026 | $25.90 | $33.30 | $40.85 | $42.00 | $50.56 | $57.05 |

Supplemental Benefits per hour:

| | | | | | | |
|---|---|---|---|---|---|---|
| 07/01/2026 | $7.26* + 4.07 | $9.33* + 5.23 | $15.99* + 6.98 | $24.31* + 8.14 | $25.21* + 9.32 | $28.21* + 10.46 |

*This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/3

## Mason - Building — 08/01/2026

**JOB DESCRIPTION** Mason - Building **DISTRICT** 9

**ENTIRE COUNTIES**

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**

| Per hour: | 07/01/2026 | 12/07/2026 Additional | 06/07/2027 Additional |
|---|---|---|---|
| Tile Setters | $ 66.35 | $ 1.28 | $ 1.41 |

**SUPPLEMENTAL BENEFITS**

Per Hour:

$ 30.56*
+8.56

*This portion of benefits subject to same premium rate as shown for overtime wages.

**OVERTIME PAY**

See (B, *E, Q, V) on OVERTIME PAGE
Work beyond 10 hours on Saturday shall be paid at double the hourly wage rate.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wage per hour:

750 hour terms at the following wage rate:

| | 1st 1-750 | 2nd 751-1500 | 3rd 1501-2250 | 4th 2251-3000 | 5th 3001-3750 | 6th 3751-4500 | 7th 4501-5250 | 8th 5251-6000 | 9th 6001-6750 | 10th 6501-7000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 07/01/2026 | $23.09 | $28.32 | $35.65 | $40.86 | $44.67 | $48.38 | $52.23 | $57.45 | $59.83 | $66.35 |

Supplemental Benefits per hour:

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|---|---|---|---|---|---|---|---|---|---|---|
| 07/01/2026 | $13.05* + $.77 | $13.05* + $.82 | $16.16* + $.93 | $16.16* + $.98 | $17.16* +$1.45 | $18.66* +$1.51 | $19.66* +$1.94 | $19.66* +$1.99 | $19.96* +$4.59 | $30.56* +$8.56 |

*This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/52

## Mason - Building — 08/01/2026

**JOB DESCRIPTION** Mason - Building **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

| Per hour: | 07/01/2026 | 01/04/2027 Additional |
|---|---|---|
| Building-Marble Restoration: | | |
| Marble, Stone & Terrazzo Polisher | $ 48.72 | $ 0.57 |

**SUPPLEMENTAL BENEFITS**

| Per Hour: | |
|---|---|
| Journeyworker | |
| Building-Marble Restoration: | |
| Marble, Stone & Polisher | $ 32.78 |

**OVERTIME PAY**
See (B, *E, Q, V) on OVERTIME PAGE
* On Saturdays, 8th hour and successive hours paid at double hourly rate.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
WAGES per hour:

900 hour term at the following wage:

| | 1st 1-900 | 2nd 901-1800 | 3rd 1801-2700 | 4th 2701 |
|---|---|---|---|---|
| 07/01/2026 | $ 34.10 | $ 38.97 | $ 43.84 | $ 48.72 |
| Supplemental Benefits Per Hour: | | | | |
| 07/01/2026 | $ 31.28 | $ 31.78 | $ 32.29 | $ 32.78 |

9-7/24-MP

## Mason - Building — 08/01/2026

**JOB DESCRIPTION** Mason - Building **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

**WAGES**
Per Hour:

| | 07/01/2026 | 01/04/2027 Additional |
|---|---|---|
| Marble Cutters & Setters | $ 65.61 | $ 0.75 |

**SUPPLEMENTAL BENEFITS**
Per Hour:

| | |
|---|---|
| Journeyworker | $ 41.38 |

**OVERTIME PAY**
See (B, E, Q, V) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
Wage Per Hour:

750 hour terms at the following wage

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|---|---|---|---|---|---|---|---|

| | 0-3000 | 3001-3750 | 3751-4500 | 4501-5250 | 5251-6000 | 6001-6750 | 6751-7500 | 7500+ |
|---|---|---|---|---|---|---|---|---|
| 07/01/2026 | $28.35 | $42.51 | $46.05 | $49.59 | $53.14 | $55.76 | $65.61 | $65.61 |

Supplemental Benefits per hour:

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|---|---|---|---|---|---|---|---|---|
| 07/01/2026 | $27.95 | $30.68 | $31.37 | $32.05 | $32.73 | $39.34 | $41.38 | $41.38 |

9-7/4

## Mason - Building — 08/01/2026

**JOB DESCRIPTION** Mason - Building **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**

| Per hour: | 07/01/2026 | 12/07/2026 Additional | 06/07/2027 Additional |
|---|---|---|---|
| Tile Finisher | $ 50.93 | $ 1.05* | $ 1.15* |

*To be allocated at a later date.

**SUPPLEMENTAL BENEFITS**
Per Hour:
$ 27.16*
+ $8.37

* This portion of benefits is subject to same premium rate as shown for overtime wages.

**OVERTIME PAY**
See (A, *E, Q) on OVERTIME PAGE
*Double time rate after 10 hours on Saturdays

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

9-7/88-tf

## Mason - Building — 08/01/2026

**JOB DESCRIPTION** Mason - Building **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**

| Per hour: | 07/01/2026 | 01/04/2027 Additional |
|---|---|---|
| Marble, Stone, Maintenance Finishers: | $ 28.56 | $ 0.41 |

Note 1: An additional $2.00 per hour for time spent grinding floor using "60 grit" and below.
Note 2: Flaming equipment operator shall be paid an additional $25.00 per day.

**SUPPLEMENTAL BENEFITS**
Per Hour:

Marble, Stone
Maintenance Finishers: $ 16.54

**OVERTIME PAY**
See (B, *E, Q, V) on OVERTIME PAGE

*Double hourly rate after 8 hours on Saturday

**HOLIDAY**
Paid: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE
1st term apprentice gets paid for all observed holidays.

**REGISTERED APPRENTICES**
WAGES per hour:

| | 07/01/2026 |
|---|---|
| 0-750 | $ 23.78 |
| 751-1500 | 24.43 |
| 1501-2250 | 25.07 |
| 2251-3000 | 25.70 |
| 3001-3750 | 26.65 |
| 3751-4500 | 27.93 |
| 4501+ | 28.56 |

Supplemental Benefits:
Per hour:

| | |
|---|---|
| 0-750 | $ 12.61 |
| 751-1500 | 13.12 |
| 1501-2250 | 13.65 |
| 2251-3000 | 14.18 |
| 3001-3750 | 14.97 |
| 3751-4500 | 16.01 |
| 4501+ | 16.54 |

9-7/24M-MF

## Mason - Building / Heavy&Highway — 08/01/2026

**JOB DESCRIPTION** Mason - Building / Heavy&Highway **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

**WAGES**
Per hour:

| | 07/01/2026 | 01/04/2027 Additional |
|---|---|---|
| Marble-Finisher | $ 51.04 | $ 0.53 |

**SUPPLEMENTAL BENEFITS**
Journeyworker:
Per hour

| | |
|---|---|
| Marble- Finisher | $ 38.46 |

**OVERTIME PAY**
See (B, E, Q, V) on OVERTIME PAGE
Work beyond 8 hours on a Saturday shall be paid at double the rate.

**HOLIDAY**
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE
When an observed holiday falls on a Sunday, it will be observed the next day.

9-7/20-MF

## Mason - Heavy&Highway — 08/01/2026

**JOB DESCRIPTION** Mason - Heavy&Highway **DISTRICT** 11

**ENTIRE COUNTIES**
Putnam, Rockland, Westchester

**PARTIAL COUNTIES**
Orange: Only the Township of Tuxedo.

**WAGES**
Per hour:

| | 07/01/2026 |
|---|---|
| Bricklayer | $ 50.65 |
| Cement Mason | 50.65 |
| Marble/Stone Mason | 50.65 |

| | |
|---|---|
| Plasterer | 50.65 |
| Pointer/Caulker | 50.65 |

Additional $1.00 per hour for power saw work
Additional $0.50 per hour for swing scaffold or staging work

**SUPPLEMENTAL BENEFITS**
Per hour:

| | |
|---|---|
| Journeyworker | $ 40.15 |

**OVERTIME PAY**

| | |
|---|---|
| Cement Mason | See ( B, E, Q, W ) |
| All Others | See ( B, E, Q, ) |

**HOLIDAY**

| | |
|---|---|
| Paid: | See (5, 6, 16, 25) on HOLIDAY PAGE |
| Overtime: | See (5, 6, 16, 25) on HOLIDAY PAGE |

- Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.
- Supplemental Benefits are not paid for paid Holiday
- If Holiday is worked, Supplemental Benefits are paid for hours worked.
- Whenever an Employee works within three (3) calendar days before a holiday, the Employee shall be paid for the Holiday.

**REGISTERED APPRENTICES**
Wages per hour:

750 hour terms at the following percentage of Journeyworker's wage

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|---|---|---|---|---|---|---|---|
| 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% |

Supplemental Benefits per hour

750 hour terms at the following percentage of Journeyworker's supplements

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|---|---|---|---|---|---|---|---|
| 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% |

11-5WP-H/H

## Operating Engineer - Building — 08/01/2026

**JOB DESCRIPTION** Operating Engineer - Building **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, New York, Putnam, Queens, Richmond, Westchester

**PARTIAL COUNTIES**
Dutchess: that part of Dutchess County lying south of the North City Line of the City of Poughkeepsie.

**WAGES**
NOTE: Construction surveying
Party Chief--One who directs a survey party
Instrument Man--One who runs the instrument and assists Party Chief.
Rodman--One who holds the rod and assists the Survey Crew

Wages:(Per Hour) 07/01/2026

Building Construction:

| | |
|---|---|
| Party Chief | $ 81.94 |
| Instrument Man | 60.49 |
| Rodman | 40.63 |

Steel Erection:

| | |
|---|---|
| Party Chief | $ 84.04 |
| Instrument Man | 63.19 |
| Rodman | 43.31 |

Heavy Construction-NYC counties only:
(Foundation, Excavation.)

| | |
|---|---|
| Party Chief | $ 88.97 |
| Instrument man | 66.04 |
| Rodman | 55.85 |

**SUPPLEMENTAL BENEFITS**

| Per Hour: | 07/01/2026 |
|---|---|
| Building Construction | $ 29.45* + 7.65 |
| Steel Erection | 31.25* + 7.65 |
| Heavy Construction | 32.06* + 7.64 |

* This portion subject to SAME premium as wages

Non-Worked Holiday Supplemental Benefit:
$ 22.48

**OVERTIME PAY**
See (A, B, E, Q) on OVERTIME PAGE
Code "A" applies to Building Construction and is subject to double the rate after 7 hours on Saturdays.
Code "B" applies to Heavy Construction and Steel Erection and is subject to double the rate after 8 hours on Saturdays.

**HOLIDAY**
Paid: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE

9-15Db

## Operating Engineer - Building 08/01/2026

**JOB DESCRIPTION** Operating Engineer - Building **DISTRICT** 8

**ENTIRE COUNTIES**
Putnam, Westchester

**PARTIAL COUNTIES**
Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

**WAGES**
GROUP I:
Cranes (All Types up to 49 tons), Boom Trucks, Cherry Pickers (All Types), Clamshell Crane, Derrick (Stone and Steel), Dragline, Franki Pile Rig or similar, High Lift (Lull or similar) with crane attachment and winch used for hoisting or lifting, Hydraulic Cranes, Pile Drivers, Potain and similar.

Cranes (All types 50-99 tons), Drill Rig Casa Grande (CAT or similar), Franki Pile Rig or similar, Hydraulic Cranes (All types including Crawler Cranes- No specific boom length).

Cranes (All types 100 tons and over), All Tower Cranes, All Climbing Cranes irrespective of manufacturer and regardless of how the same is rigged, Franki Pile Rig or similar, Conventional Cranes (All types including Crawler Cranes-No specific boom length), Hydraulic Cranes.

GROUP I-A: Barber Green Loader-Euclid Loader, Bulldozer, Carrier-Trailer Horse, Concrete Cleaning Decontamination Machine Operator, Concrete-Portable Hoist, Conway or Similar Mucking Machines, Elevator & Cage, Excavators all types, Front End Loaders, Gradall, Shovel, Backhoe, etc.(Crawler or Truck), Heavy Equipment Robotics Operator/Mechanic, Hoist Engineer-Material, Hoist Portable Mobile Unit, Hoist(Single, Double or Triple Drum), Horizontal Directional Drill Locator, Horizontal Directional Drill Operator and Jersey Spreader, Letourneau or Tournapull(Scrapers over 20 yards Struck), Lift Slab Console, etc., Lull HiLift or Similar, Master Environmental Maintenance Mechanics, Mucking Machines Operator/Mechanic or Similar Type, Overhead Crane, Pavement Breaker(Air Ram), Paver(Concrete), Post Hole Digger, Power House Plant, Road Boring Machine, Road Mix Machine, Ross Carrier and Similar Machines, Rubber tire double end backhoes and similar machines, Scoopmobile Tractor-Shovel Over 1.5 yards, Shovel (Tunnels), Spreader (Asphalt) Telephie(Cableway), Tractor Type Demolition Equipment, Trenching Machines-Vermeer Concrete Saw Trencher and Similar, Ultra High Pressure Waterjet Cutting Tool System, Vacuum Blasting Machine operator/mechanic, Winch Truck A Frame.

GROUP I-B: Compressor (Steel Erection), Mechanic (Outside All Types), Negative Air Machine (Asbestos Removal), Push Button (Buzz Box) Elevator.

GROUP II: Compactor Self-Propelled, Concrete Pump, Crane Operator in Training (Over 100 Tons), Grader, Machines Pulling Sheep's Foot Roller, Roller (4 ton and over), Scrapers (20 yards Struck and Under), Vibratory Rollers, Welder.

GROUP III-A: Asphalt Plant, Concrete Mixing Plants, Forklift (All power sources), Joy Drill or similar, Tractor Drilling Machine, Loader (1 1/2 yards and under), Portable Asphalt Plant, Portable Batch Plant, Portable Crusher, Skid Steer (Bobcat or similar), Stone Crusher, Well Drilling Machine, Well Point System.

GROUP III-B: Compressor Over 125 cu. Feet, Conveyor Belt Machine regardless of size, Compressor Plant, Ladder Hoist, Stud Machine.

GROUP IV-A: Batch Plant, Concrete Breaker, Concrete Spreader, Curb Cutter Machine, Finishing Machine-Concrete, Fine Grading Machine, Hepa Vac Clean Air Machine, Material Hopper(sand, stone, cement), Mulching Grass Spreader, Pump Gypsum etc, Pump-Plaster-Grout-Fireproofing. Roller(Under 4 Ton),Spreading and Fine Grading Machine, Steel Cutting Machine, Siphon Pump, Tar Joint Machine, Television Cameras for Water, Sewer, Gas etc. Turbo Jet Burner or Similar Equipment, Vibrator (1 to 5).

GROUP IV-B: Compressor (all types), Heater (All Types), Fire Watchman, Lighting Unit (Portable & Generator) Pump, Pump Station(Water, Sewer, Portable, Temporary), Welding Machine (Steel Erection & Excavation).

GROUP V: Mechanics Helper, Motorized Roller (walk behind), Stock Attendant, Welder's Helper, Maintenance Engineer Crane(75 ton and over).

Group VI-A: Welder Certified
GROUP VI-B: Utility Man, Warehouse Man.

WAGES: (per hour)

| | 07/01/2026 | 03/01/2027 |
|---|---|---|
| GROUP I | | |
| Cranes- up to 49 tons | $ 71.19 | $ 73.11 |
| Cranes- 50 tons to 99 tons | 73.69 | 75.69 |
| Cranes- 100 tons and over | 84.27 | 86.64 |
| GROUP I-A | 62.20 | 63.80 |
| GROUP I-B | 57.24 | 58.67 |
| GROUP II | 59.98 | 61.50 |
| GROUP III-A | 57.75 | 59.20 |
| GROUP III-B | 54.93 | 56.28 |
| GROUP IV-A | 57.16 | 58.58 |
| GROUP IV-B | 48.17 | 49.28 |
| GROUP V | 52.01 | 53.25 |
| Group VI-A | 61.05 | 62.61 |
| GROUP VI-B | | |
| Utility Man | 49.30 | 50.45 |
| Warehouse Man | 51.72 | 52.95 |

An additional 20% of wage to be paid when required to wear protective equipment on hazardous/toxic waste projects.
Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional $2.00 per hour.
Engineers operating cranes with booms 149 feet or over in length will be paid an additional $3.00 per hour.
Loader operators over 5 cubic yard capacity additional .50 per hour.
Shovel operators over 4 cubic yard capacity additional $1.00 per hour.

**SUPPLEMENTAL BENEFITS**
Per hour:

| | | |
|---|---|---|
| Journeyworker | $ 34.42 | $ 36.17 |

**OVERTIME PAY**
See (B, E, Q, V) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 25, 26, 28) on HOLIDAY PAGE

8-137B

## Operating Engineer - Heavy&Highway 08/01/2026

**JOB DESCRIPTION** Operating Engineer - Heavy&Highway **DISTRICT** 8

**ENTIRE COUNTIES**
Putnam, Westchester

**PARTIAL COUNTIES**
Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

**WAGES**
GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane, (Crawler, Truck),
Dragline, Drill Rig (Casa Grande, Cat, or Similar), Floating Crane (Crane on Barges) under 100 tons, Gin Pole, Hoist Engineer-Concrete (Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger (Truck or Truck Mounted), Boat Captain, Bulldozer-All Sizes, Central Mix Plant Operator, Chipper (all types), Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader (Motor Grader), Elevator & Cage (Materials or Passenger), Excavator (and all attachments), Front End Loaders (1 1/2 yards and over), High Lift Lull and similar, Hoist (Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer (Material), Jack and Bore Machine, Log Skidders, Mill Machines, Mucking Machines, Overhead Crane, Paver (concrete), Post Pounder (of any type), Push Cats, Road Reclaimer, Robot Hammer (Brokk or similar), Robotic Equipment (Scope of Engineer Schedule), Ross Carrier and similar, Scrapers (20 yard struck and over), Side Boom, Slip Form Machine, Spreader (Asphalt), Trenching Machines (Telephies-Vermeer Concrete Saw), Tractor Type Demolition Equipment, Vacuum Truck. Vibratory Roller(Riding) or Roller used in mainline paving operations.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver (Asphalt).

GROUP II-A: Ballast Regulators, Compactor Self Propelled, Fusion Machine, Rail Anchor Machines, Roller (4 ton and over), Scrapers (20 yard struck and under).

GROUP II-B: Mechanic (Outside) All Types, Shop Mechanic.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler (High Pressure), Concrete Breaker (Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift (all types), Gas Tapping (Live), Hydroseeder, Loader (1 1/2 yards and under), Locomotive (all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher (Apprentice), Powerhouse Plant, Roller (under 4 ton), Sheer Excavator, Skid Steer/Bobcat, Stone Crusher, Sweeper (with seat), Well Drilling Machine.

GROUP IV: Service Person (Grease Truck), Deckhand.

GROUP IV-B: Conveyor Belt Machine (Truck Mounted), Heater (all types), Lighting Unit (Portable), Maintenance Engineer (For Crane Only), Mechanics Helper, Pump (Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck (Sewer Jet or Similar), Welders Helper, Welding Machine (Steel Erection), Well Point System.

GROUP V: All Tower Cranes-All Climbing Cranes and all cranes of 100-ton capacity or greater (3900 Manitowac or similar) irrespective of manufacturer and regardless of how the same is rigged, Hoist Engineer (Steel), Engineer-Pile Driver, Jersey Spreader, Pavement Breaker/Post Hole Digger.

| WAGES: Per hour: | 07/01/2026 | 03/01/2027 |
|---|---|---|
| Group I | $ 72.77 | $ 75.10 |
| Group I-A | 63.97 | 65.99 |
| Group I-B | 67.49 | 69.64 |
| Group II-A | 61.21 | 63.14 |
| Group II-B | 63.17 | 65.17 |
| Group III | 60.12 | 62.01 |
| Group IV | 54.49 | 56.18 |
| Group IV-B | 46.59 | 48.01 |
| Group V | | |
| Engineer All Tower, Climbing and Cranes of 100 Tons | 82.61 | 85.29 |
| Hoist Engineer(Steel) | 74.67 | 77.07 |
| Engineer(Pile Driver) | 79.73 | 82.31 |
| Jersey Spreader, Pavement Breaker (Air Ram)Post Hole Digger | 62.66 | 64.64 |

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional $2.00 per hour over the rate listed in the Wage Schedule. Engineers operating cranes with booms 149 feet or over in length will be paid an additional $3.00 per hour over the rate listed in the Wage Schedule. Loader and Excavator Operators: over 5 cubic yards capacity $0.50 per hour over the rate listed in the Wage Schedule. Shovel Operators: over 4 cubic yards capacity $1.00 per hour over the rate listed in the Wage Schedule.

**SHIFT WORK**

A 15% premium on all hours paid, including overtime hours for 2nd and 3rd shifts on all government mandated off-shift work

**SUPPLEMENTAL BENEFITS**

Per hour:

| | | |
|---|---|---|
| Journeyworker: | $ 38.08 up to 40 Hours | $ 39.68 up to 40 hours |
| | After 40 hours $ 27.63* PLUS $ 1.45 on all hours worked | After 40 hours $ 28.68* PLUS $ 1.50 on all hours worked |

*This amount is subject to premium

**OVERTIME PAY**
See (B, E, P, *R, **U) on OVERTIME PAGE
* For Holiday codes 8,15,25,26 code R applies
** For Holiday codes 5 & 6 code U applies

**HOLIDAY**
Paid: See (5, 6, 8, 15, 25, 26, 28) on HOLIDAY PAGE
Overtime See ( 5, 6, 8, 15, 25, 26 ) on OVERTIME PAGE

* For Holiday codes 8,15,25,26 code R applies
** For Holiday codes 5 & 6 code U applies

Note: If employees are required to work on Easter Sunday they shall be paid at the rate of triple time.

**REGISTERED APPRENTICES**
(1)year terms at the following rate.

| | | |
|---|---|---|
| 1st term | $ 38.38 | $ 39.59 |
| 2nd term | 44.78 | 46.19 |
| 3rd term | 51.18 | 52.79 |
| 4th term | 57.57 | 59.39 |

Supplemental Benefits per hour:

| | | |
|---|---|---|
| | $ 29.08 | $ 30.18 |

8-137HH

## Operating Engineer - Heavy&Highway — 08/01/2026

**JOB DESCRIPTION** Operating Engineer - Heavy&Highway **DISTRICT** 9

**ENTIRE COUNTIES**
Putnam, Westchester

**PARTIAL COUNTIES**
Dutchess: South of the North city line of Poughkeepsie

**WAGES**
Party Chief - One who directs a survey party
Instrument Man - One who runs the instrument and assists Party Chief
Rodman - One who holds the rod and in general, assists the Survey Crew
Categories cover GPS & Underground Surveying

| Per Hour: | 07/01/2026 |
|---|---|
| Party Chief | $ 85.77 |
| Instrument Man | 63.48 |
| Rodman | 53.53 |

**SUPPLEMENTAL BENEFITS**
Per Hour: 07/01/2026

All Categories
Straight Time: $ 32.06* + $7.64

Premium:
Time & 1/2 $ 48.09* + $7.64

Double Time $ 64.12* + $7.64

*This portion is subject to the SAME premium as wages.

Non-Worked Holiday Supplemental Benefits:
$ 22.47

**OVERTIME PAY**
See (B, *E, Q) on OVERTIME PAGE
* Doubletime paid on all hours in excess of 8 hours on Saturday

**HOLIDAY**
Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

## Operating Engineer - Heavy&Highway - Tunnel 08/01/2026

**JOB DESCRIPTION** Operating Engineer - Heavy&Highway - Tunnel **DISTRICT** 8

**ENTIRE COUNTIES**
Putnam, Westchester

**PARTIAL COUNTIES**
Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

**WAGES**
GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane(Crawler, Truck), Dragline, Drill Rig Casa Grande(Cat or Similar), Floating Crane(Crane on Barge-Under 100 Tons), Hoist Engineer(Concrete/Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger(Truck or Truck Mounted), Boat Captain, Bull Dozer-all sizes, Central Mix Plant Operator, Chipper-all types, Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader(Motor Grader), Elevator & Cage(Materials or Passengers), Excavator(and all attachments), Front End Loaders(1 1/2 yards and over), High Lift Lull, Hoist(Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer(Material), Jack and Bore Machine, Log Skidder, Milling Machine, Moveable Concrete Barrier Transfer & Transport Vehicle, Mucking Machines. Overhead Crane, Paver(Concrete), Post Pounder of any type, Push Cats, Road Reclaimer, Robot Hammer(Brokk or similar), Robotic Equipment(Scope of Engineer Schedule), Ross Carrier and similar machines, Scrapers(20 yards struck and over), Side Boom, Slip Form Machine, Spreader(Asphalt), Trenching Machines, Telephies-Vermeer Concrete Saw, Tractor type demolition equipment, Vacuum Truck, Vibratory Roller (Riding) used in mainline paving operations.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver(Asphalt).

GROUP II-A: Ballast Regulators, Compactor(Self-propelled), Fusion Machine, Rail Anchor Machines, Roller(4 ton and over), Scrapers(20 yard struck and under).

GROUP II-B: Mechanic(outside)all types, Shop Mechanic.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler(High Pressure), Concrete Breaker(Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift(all types of power), Gas Tapping(Live), Hydroseeder, Loader(1 1/2 yards and under), Locomotive(all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher(Apprentice), Powerhouse Plant, Roller(under 4 ton), Sheer Excavator, Skidsteer/Bobcat, Stone Crusher, Sweeper(with seat), Well Drilling Machine.

GROUP IV-A: Service Person(Grease Truck), Deckhand.

GROUP IV-B: Conveyor Belt Machine(Truck Mounted), Heater(all types), Lighting Unit(Portable), Maintenance Engineer(for Crane only), Mechanics Helper, Pump(Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck(Sewer Jet or similar), Welding Machine(Steel Erection), Welders Helper.

GROUP V-A: Engineer(all Tower Cranes, all Climbing Cranes & all Cranes of 100 ton capacity or greater),Hoist Engineer(Steel-Sub Structure), Engineer-Pile Driver, Jersey-Spreader, Pavement breaker, Post Hole Digger

WAGES: (per hour)

| | 07/01/2026 | 03/01/2027 |
|---|---|---|
| GROUP I | $ 72.77 | $ 75.10 |
| GROUP I-A | 63.97 | 65.99 |
| GROUP I-B | 67.49 | 69.64 |
| GROUP II-A | 61.21 | 63.14 |
| GROUP II-B | 63.17 | 65.17 |
| GROUP III | 60.12 | 62.01 |
| GROUP IV-A | 54.49 | 56.18 |
| GROUP IV-B | 46.59 | 48.01 |

| | | |
|---|---|---|
| GROUP V-A | | |
| Engineer-Cranes | 82.61 | 85.29 |
| Engineer-Pile Driver | 79.73 | 82.31 |
| Hoist Engineer | 74.67 | 77.07 |
| Jersey Spreader/Post Hole Digger | 62.66 | 64.64 |

An additional 20% of wage to be paid when required to wear protective equipment on hazardous/toxic waste projects.
Operators required to use two buckets pouring concrete on other than road pavement shall receive $0.50 per hour over scale.
Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional $2.00 per hour.
Engineers operating cranes with booms 149 feet or over in length will be paid an additional $3.00 per hour.
Operators of shovels with a capacity over (4) cubic yards shall be paid an additional $1.00 per hour.
Operators of loaders with a capacity over (5) cubic yards shall be paid an additional $0.50 per hour.

**SHIFT WORK**
A 15% premium on all hours paid, including overtime hours for 2nd and 3rd shifts
on all government mandated off-shift work

**SUPPLEMENTAL BENEFITS**
Per hour:
Journeyworker:

| | |
|---|---|
| $ 38.08 up to 40 hours | $ 39.68 up to 40 hours |
| After 40 hours: $27.63 plus $1.45 on all hours worked | After 40 hours: $28.68 plus $1.50 on all hours worked |

**OVERTIME PAY**
See (E, P, *R, **T, ***U) on OVERTIME PAGE
*For Holiday codes 8, 15, 25, 26, code R applies.
**For Holiday code 28, code T applies.
***For Holiday codes 5 & 6, code U applies.

**HOLIDAY**
Paid: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE
For Holiday codes 5 & 6, code U applies.
For Holiday codes 8, 15, 25, 26, code R applies.
If employees are required to work on Easter Sunday, they shall be paid at the rate of triple time.

**REGISTERED APPRENTICES**
(1)year terms at the following rates:

| | | |
|---|---|---|
| 1st term | $ 38.38 | $ 39.59 |
| 2nd term | 44.78 | 46.19 |
| 3rd term | 51.18 | 52.79 |
| 4th term | 57.57 | 59.39 |
| Supplemental Benefits per hour: | | |
| All terms | $ 29.08 | $ 30.18 |

8-137Tun

## Operating Engineer - Marine Dredging — 08/01/2026

**JOB DESCRIPTION** Operating Engineer - Marine Dredging **DISTRICT** 4

**ENTIRE COUNTIES**
Albany, Bronx, Cayuga, Clinton, Columbia, Dutchess, Essex, Franklin, Greene, Jefferson, Kings, Monroe, Nassau, New York, Orange, Oswego, Putnam, Queens, Rensselaer, Richmond, Rockland, St. Lawrence, Suffolk, Ulster, Washington, Wayne, Westchester

**WAGES**
These wage rates do not apply to Operating Engineers on land-based construction projects. For those projects, refer to the Operating Engineers Heavy/Highway rates. The wage rates listed below apply specifically to all equipment and operators involved in marine dredging work within navigable waters located in the counties listed above.

| Per Hour: | 07/01/2026 | 10/01/2026 |
|---|---|---|

| | | |
|---|---|---|
| CLASS A1<br>Deck Captain, Leverman,<br>Mechanical Dredge Operator,<br>Licensed Tug Operator with MOTV | $ 48.48 | $ 49.94 |
| CLASS A2<br>Crane Operator (360 swing) | 43.20 | 44.50 |
| CLASS B<br>Dozer, Front Loader<br>Operator (On Land) | To conform to Operating Engineer<br>Prevailing Wage in locality where work<br>is being performed including benefits. | |
| CLASS B1<br>Derrick Operator (180 swing),<br>Spider/Spill Barge Operator I/II,<br>Fill Placer, Engineer, Chief Mate,<br>Electrician,Chief Welder,Maintenance Engineer,<br>Licensed Boat, Crew Boat Operator | 41.93 | 43.18 |
| CLASS B2<br>Certified Welder | 39.46 | 40.65 |
| CLASS C1<br>Drag Barge Operator,<br>Steward, Mate,<br>Assistant Fill Placer | 38.38 | 39.53 |
| CLASS C2<br>Boat Operator | 37.15 | 38.26 |
| CLASS D<br>Shoreman, Deckhand, Oiler,<br>Rodman, Scowman, Cook,<br>Messman, Porter/Janitor | 30.86 | 31.79 |

**SUPPLEMENTAL BENEFITS**
Per Hour:
THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

| | | |
|---|---|---|
| All Classes: | 7% of Hourly Straight time wage + $12.00. | 7.5% of Hourly Straight time wage + $12.00. |

- Additional $0.63 per hour for Overtime hours

**OVERTIME PAY**
See (B2, F, R) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarDredge

## Operating Engineer - Survey Crew - Consulting Engineer — 08/01/2026

**JOB DESCRIPTION** Operating Engineer - Survey Crew - Consulting Engineer **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

**PARTIAL COUNTIES**
Dutchess: That part in Duchess County lying South of the North City line of Poughkeepsie.

**WAGES**
Feasibility and preliminary design surveying, any line and grade surveying for inspection or supervision of construction.

| Per hour:<br>Survey Classifications | 07/01/2026 |
|---|---|
| Party Chief | $ 51.16 |
| Instrument Man | 42.44 |
| Rodman | 36.92 |

**SUPPLEMENTAL BENEFITS**
Per Hour:

All Crew Members: $ 24.53

**OVERTIME PAY**
OVERTIME:.... See ( B, E*, Q, V ) ON OVERTIME PAGE.
*Double-time paid on the 9th hour on Saturday.

**HOLIDAY**
Paid: See (5, 6, 7, 11, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 16) on HOLIDAY PAGE

9-15dconsult

## Painter — 08/01/2026

**JOB DESCRIPTION** Painter **DISTRICT** 8

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

**WAGES**

| Per hour: | 07/01/2026 | 05/01/2027 Additional |
|---|---|---|
| Brush | $ 55.76 | $2.77* |
| Abatement/Removal of lead based or lead containing paint on materials to be repainted. | 55.76 | |
| Spray & Scaffold | $ 58.76 | |
| Fire Escape | 58.76 | |
| Decorator | 58.76 | |
| Paperhanger/Wall Coverer | 57.27 | |

*To be allocated at a later date.

**SHIFT WORK**
Agency/Government mandated off-shift work to be paid at time and one-half the hourly wage.

**SUPPLEMENTAL BENEFITS**
Per hour:

| | |
|---|---|
| Paperhanger | $ 39.86 |
| All others | 36.72 |
| Paperhanger Premium | 45.26 |
| Premium | 41.23** |

**Applies only to "All others" category, not paperhanger journeyworker.

**OVERTIME PAY**
See (A, F, R) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
One ( 1 ) year terms at the following wage rate.

| Per hour: | 07/01/2026 |
|---|---|
| Appr 1st term... | $ 21.18 |
| Appr 2nd term... | 27.40 |
| Appr 3rd term... | 33.30 |
| Appr 4th term... | 44.67 |

Supplemental benefits:
Per Hour:

| | |
|---|---|
| Appr 1st term... | $ 18.06 |
| Appr 2nd term... | 22.14 |
| Appr 3rd term... | 25.59 |

Appr 4th term... 32.55

8-NYDC9-B/S

## Painter 08/01/2026

**JOB DESCRIPTION** Painter **DISTRICT** 8

**ENTIRE COUNTIES**
Putnam, Suffolk, Westchester

**PARTIAL COUNTIES**
Nassau: All of Nassau except the areas described below: Atlantic Beach, Ceaderhurst, East Rockaway, Gibson, Hewlett, Hewlett Bay, Hewlett Neck, Hewlett Park, Inwood, Lawrence, Lido Beach, Long Beach, parts of Lynbrook, parts of Oceanside, parts of Valley Stream, and Woodmere. Starting on the South side of Sunrise Hwy in Valley Stream running east to Windsor and Rockaway Ave., Rockville Centre is the boundary line up to Lawson Blvd. turn right going west all the above territory. Starting at Union Turnpike and Lakeville Rd. going north to Northern Blvd. the west side of Lakeville road to Northern blvd. At Northern blvd. going east the district north of Northern blvd. to Port Washington Blvd. West of Port Washington blvd.to St.Francis Hospital then north of first traffic light to Port Washington and Sands Point, Manor HAven, Harbour Acres.

**WAGES**

| Per hour: | 07/01/2026 | 05/01/2027 |
|---|---|---|
| | | Additional |
| Drywall Taper: | $ 55.76 | $ 2.77* |
| Scaffold: | $ 58.76 | |

* To be allocated a later date.

**SHIFT WORK**
Agency/Government mandated off-shift work to be paid at time and one-half hourly wage

**SUPPLEMENTAL BENEFITS**
Per hour:
Journeyworker $ 36.72

**OVERTIME PAY**
See (A, F, R) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
Wages - Per Hour:

1500 hour terms at the following wage rate:

| | |
|---|---|
| 1st term | $ 21.18 |
| 2nd term | 27.40 |
| 3rd term | 33.30 |
| 4th term | 44.67 |

Supplemental Benefits - Per hour:
One year term (1500 hours) at the following dollar amount.

| | |
|---|---|
| 1st year | $ 18.06 |
| 2nd year | 22.14 |
| 3rd year | 25.59 |
| 4th year | 32.55 |

8-NYDCT9-DWT

## Painter - Bridge & Structural Steel 08/01/2026

**JOB DESCRIPTION** Painter - Bridge & Structural Steel **DISTRICT** 8

**ENTIRE COUNTIES**
Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

**WAGES**
Per Hour:
STEEL:

| Bridge Painting: | 07/01/2026 | 10/01/2026 |
|---|---|---|
| | $ 57.00* | Additional |
| | + 12.90** | + 3.64*** |

ADDITIONAL $7.00 per hour for POWER TOOL/SPRAY, whether straight time or overtime.

*NOTE: All premium wages are to be calculated on base rate per hour only.

** For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (50 hour cap).

*** To be allocated a later date

NOTE: Generally, for Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

**SHIFT WORK**

When directly specified in public agency or authority contract documents for an employer to work a second shift and works the second shift with employees other than from the first shift, all employees who work the second shift will be paid 10% of the base wage shift differential in lieu of overtime for the first eight (8) hours worked after which the employees shall be paid at time and one half of the regular wage rate. When a single irregular work shift is mandated in the job specifications or by the contracting agency, wages shall be paid at time and one half for single shifts between the hours of 3pm-11pm or 11pm-7am.

**SUPPLEMENTAL BENEFITS**

Per Hour:
Journeyworker:

$ 13.49
+ 31.67*

**OVERTIME PAY**

See (B, F, R) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

Wage - Per hour:
Apprentices: (1) year terms.

| | 07/01/2026 |
|---|---|
| 1st year | $ 22.80*<br>+ 5.64** |
| 2nd year | $ 34.20*<br>+ 7.74** |
| 3rd year | $ 45.60*<br>+ 10.31** |

*NOTE: All premium wages are to be calculated on base rate per hour only.

** For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (50 hour cap).

Supplemental Benefits - Per hour:

| | |
|---|---|
| 1st year | $ 13.74 |
| 2nd year | $ 8.09*<br>+ 18.99 |
| 3rd year | $ 10.79*<br>+ 25.34 |

*Portion not applicable to May 1st to November 15th and Nov 16th to April 30th period mentioned above.

8-DC-9/806/155-BrSS

**Painter - Line Striping** **08/01/2026**

**JOB DESCRIPTION** Painter - Line Striping **DISTRICT** 8

**ENTIRE COUNTIES**
Albany, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Nassau, Orange, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

**WAGES**
Per hour:

| Painter (Striping-Highway): | 07/01/2026 | 04/01/2027 |
|---|---|---|
| Striping-Machine Operator* | $ 36.93 | $ 38.45 |
| Linerman Thermoplastic | 44.44 | 46.22 |

Note: * Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety.

**SHIFT WORK**
When directly specified in public agency or authority contract documents there shall be a 30% night shift premium pay differential for all work performed after 9:00pm and before 5:00am.

**SUPPLEMENTAL BENEFITS**
Per hour paid:
Journeyworker:

| | | |
|---|---|---|
| Striping Machine Operator: | $ 24.95 | $ 25.60 |
| Linerman Thermoplastic: | 24.95 | 25.60 |

**OVERTIME PAY**
See (B, B2, E2, F, S) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 20) on HOLIDAY PAGE
Overtime: See (5, 20) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
One (1) year terms at the following wage rates:

| | 07/01/2026 |
|---|---|
| 1st Term: | $ 21.18 |
| 2nd Term: | 27.40 |
| 3rd Term: | 33.30 |

Supplemental Benefits per hour:

| | |
|---|---|
| 1st term: | $ 18.06 |
| 2nd term: | 22.14 |
| 3rd term: | 25.59 |

8-1456-LS

## Painter - Metal Polisher 08/01/2026

**JOB DESCRIPTION** Painter - Metal Polisher **DISTRICT** 8

**ENTIRE COUNTIES**
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

**WAGES**

| | 07/01/2026 |
|---|---|
| Metal Polisher | $ 41.33 |
| Metal Polisher* | 42.43 |
| Metal Polisher** | 45.33 |

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

**SUPPLEMENTAL BENEFITS**
Per Hour:

Journeyworker:
All classifications $ 13.99

**OVERTIME PAY**
See (B, E, P, T) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
Wages per hour:
One (1) year term at the following wage rates:

| | 07/01/2026 |
|---|---|
| 1st year | $ 20.67 |
| 2nd year | 22.73 |
| 3rd year | 24.80 |
| 1st year* | $ 21.06 |
| 2nd year* | 23.17 |
| 3rd year* | 25.34 |
| 1st year** | $ 23.17 |
| 2nd year** | 25.23 |
| 3rd year** | 27.30 |

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
Per hour:

| | |
|---|---|
| 1st year | $ 9.19 |
| 2nd year | 9.19 |
| 3rd year | 9.19 |

8-8A/28A-MP

## Plumber — 08/01/2026

**JOB DESCRIPTION** Plumber **DISTRICT** 8

**ENTIRE COUNTIES**
Putnam, Westchester

**WAGES**
Per hour:

| | 07/01/2026 |
|---|---|
| Plumber and Steamfitter | $ 66.83 |

**SHIFT WORK**

SHIFT WORK:
When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

**SUPPLEMENTAL BENEFITS**
Per hour:

Journeyworker $ 46.79

**OVERTIME PAY**
See (B, E, E2, Q, V) on OVERTIME PAGE
OVERTIME:... See on OVERTIME PAGE.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
(1)year terms at the following wages:

| | |
|---|---|
| 1st Term | $ 24.95 |
| 2nd Term | 28.59 |
| 3rd Term | 33.07 |
| 4th Term | 47.01 |
| 5th Term | 50.42 |

Supplemental Benefits per hour:

| | |
|---|---|
| 1st term | $ 19.16 |
| 2nd term | 21.42 |
| 3rd term | 25.44 |
| 4th term | 33.77 |
| 5th term | 35.82 |

8-21.1-ST

## Plumber - HVAC / Service — 08/01/2026

**JOB DESCRIPTION** Plumber - HVAC / Service **DISTRICT** 8

**ENTIRE COUNTIES**
Dutchess, Putnam, Westchester

**PARTIAL COUNTIES**
Delaware: Only the townships of Middletown and Roxbury
Ulster: Entire County(including Wallkill and Shawangunk Prisons) except for remainder of Town of Shawangunk and Towns of Plattekill, Marlboro, and Wawarsing.

**WAGES**
Per hour: 07/01/2026

| | |
|---|---|
| HVAC Service | $ 45.43 |
| | + $ 4.52* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

**SUPPLEMENTAL BENEFITS**
Per hour:

Journeyworker HVAC Service
$ 33.34

**OVERTIME PAY**
See (B, F, R) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
HVAC SERVICE
(1)year terms at the following wages:

| 1st yr. | 2nd yr. | 3rd yr. | 4th yr. | 5th yr. |
|---|---|---|---|---|
| $ 20.56 | $ 24.42 | $ 30.35 | $ 37.33 | $ 40.63 |
| +$2.45* | +$2.79* | +$3.34* | +$4.00* | +$4.26* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental Benefits per hour:

Apprentices 07/01/2026

| | |
|---|---|
| 1st term | $ 22.81 |
| 2nd term | 24.68 |
| 3rd term | 26.69 |
| 4th term | 29.49 |
| 5th term | 31.46 |

8-21.1&2-SF/Re/AC

## Plumber - Jobbing & Alterations — 08/01/2026

**JOB DESCRIPTION** Plumber - Jobbing & Alterations **DISTRICT** 8

**ENTIRE COUNTIES**
Dutchess, Putnam, Westchester

**PARTIAL COUNTIES**
Ulster: Entire county (including Wallkill and Shawangunk Prisons in Town of Shawangunk) EXCEPT for remainder of Town of Shawangunk, and Towns of Plattekill, Marlboro, and Wawarsing.

**WAGES**

| Per hour: | 07/01/2026 |
|---|---|
| Journeyworker: | $ 52.14 |

Repairs, replacements and alteration work is any repair or replacement of a present plumbing system that does not change existing roughing or water supply lines.

**SHIFT WORK**
When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

**SUPPLEMENTAL BENEFITS**

| Per hour: | |
|---|---|
| Journeyworker | $ 38.99 |

**OVERTIME PAY**
See (B, *E, E2, Q, V) on OVERTIME PAGE
*When used as a make-up day, hours after 8 on Saturday shall be paid at time and one half.

**HOLIDAY**

| Paid: | See (1) on HOLIDAY PAGE |
|---|---|
| Overtime: | See (5, 6, 8, 16, 25) on HOLIDAY PAGE |

**REGISTERED APPRENTICES**
(1) year terms at the following wages:

| | |
|---|---|
| 1st year | $ 22.32 |
| 2nd year | 24.83 |
| 3rd year | 27.16 |
| 4th year | 38.07 |
| 5th year | 40.25 |

Supplemental Benefits per hour:

| | |
|---|---|
| 1st year | $ 13.07 |
| 2nd year | 15.31 |
| 3rd year | 19.67 |
| 4th year | 26.65 |
| 5th year | 28.88 |

8-21.3-J&A

## Roofer 08/01/2026

**JOB DESCRIPTION** Roofer **DISTRICT** 9

**ENTIRE COUNTIES**
Bronx, Dutchess, Kings, New York, Orange, Putnam, Queens, Richmond, Rockland, Sullivan, Ulster, Westchester

**WAGES**

| Per Hour: | 07/01/2026 | 05/01/2027 Additional |
|---|---|---|
| Roofer/Waterproofer | $ 52.50 + $7.00* | + $ 3.00 |

* This portion is not subjected to overtime premiums.

Note: Abatement/Removal of Asbestos containing roofs and roofing material is classified as Roofer.

**SUPPLEMENTAL BENEFITS**
Per Hour: $ 33.12

**OVERTIME PAY**
See (B, H) on OVERTIME PAGE

Note: An observed holiday that falls on a Sunday will be observed the following Monday.

**HOLIDAY**
Overtime: See (5, 6) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
( 1 ) year term apprentices indentured prior to 01/01/2023

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 18.38 | $ 26.25 | $ 31.50 | $ 39.38 |
| | + 3.50* | + 4.20* | + 5.26* |

Supplemental Benefits:

| 1st | 2nd | 3rd | 4th |
|---|---|---|---|
| $ 4.32 | $ 16.94 | $ 20.17 | $ 25.03 |

* This portion is not subjected to overtime premiums.

(1) year term apprentices indentured after 01/01/2023

| 1st | 2nd | 3rd | 4th | 5th |
|---|---|---|---|---|
| $ 19.95 | $ 23.63 | $ 26.25 | $ 31.50 | $ 39.38 |
| | + 3.16* | + 3.50* | + 4.20* | + 5.26* |

Supplemental Benefits:

| 1st | 2nd | 3rd | 4th | 5th |
|---|---|---|---|---|
| $ 8.15 | $ 15.32 | $ 16.94 | $ 20.17 | $ 25.03 |

* This portion is not subjected to overtime premiums.

9-8R

## Sheetmetal Worker — 08/01/2026

**JOB DESCRIPTION** Sheetmetal Worker **DISTRICT** 8

**ENTIRE COUNTIES**
Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

**WAGES**

| | 07/01/2026 |
|---|---|
| SheetMetal Worker | $ 53.48 |
| | + 3.81* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

**SHIFT WORK**
For all NYS D.O.T. and other Governmental mandated off-shift work:
12% increase for additional shifts for a minimum of five (5) days

**SUPPLEMENTAL BENEFITS**
Journeyworker $ 48.71

**OVERTIME PAY**
See ( B, E, Q, ) on OVERTIME PAGE.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 23) on HOLIDAY PAGE
Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

**REGISTERED APPRENTICES**

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|---|---|---|---|---|---|---|---|
| $ 21.80 | $ 22.61 | $ 25.12 | $ 27.61 | $ 30.13 | $ 32.67 | $ 35.65 | $ 38.61 |
| + 1.52* | + 1.71* | + 1.91* | + 2.10* | + 2.29* | + 2.48* | + 2.67* | + 2.86* |

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental Benefits per hour:

| Apprentices | |
|---|---|
| 1st term | $ 19.09 |
| 2nd term | 23.39 |
| 3rd term | 25.99 |
| 4th term | 28.59 |
| 5th term | 31.18 |
| 6th term | 33.76 |

| | |
|---|---|
| 7th term | 35.89 |
| 8th term | 38.04 |

8-38

## Sheetmetal Worker — 08/01/2026

**JOB DESCRIPTION** Sheetmetal Worker **DISTRICT** 4

**ENTIRE COUNTIES**
Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

**WAGES**
Per Hour:

| | 07/01/2026 | 08/01/2026 |
|---|---|---|
| Sign Erector | $ 62.00 | $ 64.00 |

NOTE: For Structurally Supported Overhead Highway Signs (See STRUCTURAL IRON WORKER CLASSIFICATION)

**SUPPLEMENTAL BENEFITS**
Per Hour:

| | | |
|---|---|---|
| Sign Erector | $ 59.58 | $ 60.62 |

**OVERTIME PAY**
See (B, F, S) on OVERTIME PAGE

**HOLIDAY**
Paid: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

**REGISTERED APPRENTICES**
Per Hour:
6 month Terms at the following percentage of Sign Erectors wage rate:

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|---|---|---|---|---|---|---|---|---|---|
| 35% | 40% | 45% | 50% | 55% | 60% | 65% | 70% | 75% | 80% |

SUPPLEMENTAL BENEFITS Per Hour:

07/01/2026

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|---|---|---|---|---|---|---|---|---|---|
| $ 19.04 | $ 21.62 | $ 24.21 | $ 26.79 | $36.17 | $ 39.36 | $ 43.50 | $ 46.77 | $ 50.05 | $ 53.32 |

08/01/2026

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|---|---|---|---|---|---|---|---|---|---|
| $ 19.45 | $ 22.09 | $ 24.72 | $ 27.36 | $36.81 | $ 40.07 | $ 44.29 | $ 47.62 | $ 50.95 | $ 54.29 |

4-137-SE

## Sprinkler Fitter — 08/01/2026

**JOB DESCRIPTION** Sprinkler Fitter **DISTRICT** 1

**ENTIRE COUNTIES**
Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

**WAGES**
Per hour

| | 07/01/2026 | 01/01/2027 | 04/01/2027 | 01/01/2028 |
|---|---|---|---|---|
| Sprinkler Fitter | $ 60.78 | $ 60.78 | $ 64.37 | $ 64.37 |

**SUPPLEMENTAL BENEFITS**
Per hour

| | | | | |
|---|---|---|---|---|
| Journeyworker | $ 32.66 | $ 33.66 | $ 33.66 | $ 34.66 |

**OVERTIME PAY**
See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

**REGISTERED APPRENTICES**

One Half Year terms at the following wage per hour:

| | 07/01/2026 | 01/01/2027 | 04/01/2027 | 01/01/2028 |
|---|---|---|---|---|
| 1st Term | $ 30.87 | $ 30.87 | $ 32.42 | $ 32.42 |
| 2nd Term | 34.46 | 34.46 | 36.19 | 36.19 |
| 3rd Term | 37.34 | 37.34 | 39.20 | 39.20 |
| 4th Term | 40.21 | 40.21 | 42.22 | 42.22 |
| 5th Term | 42.36 | 42.36 | 44.48 | 44.48 |
| 6th Term | 45.95 | 45.95 | 48.25 | 48.25 |
| 7th Term | 48.82 | 48.82 | 51.27 | 51.27 |
| 8th Term | 51.70 | 51.70 | 54.28 | 54.28 |
| 9th Term | 54.57 | 54.57 | 57.30 | 57.30 |
| 10th Term | 57.44 | 57.44 | 60.31 | 60.31 |
| Supplemental Benefits per hour: | | | | |
| 1st & 2nd Term | $ 10.23 | $ 11.23 | $ 11.23 | $ 12.23 |
| 3rd & 4th Term | 22.79 | 23.79 | 23.79 | 24.79 |
| All Other Terms | 23.04 | 24.04 | 24.04 | 25.04 |

1-669.2

## Teamster - Building / Heavy&Highway — 08/01/2026

**JOB DESCRIPTION** Teamster - Building / Heavy&Highway **DISTRICT** 8

**ENTIRE COUNTIES**

Putnam, Westchester

**WAGES**

GROUP A: Straight Trucks (6-wheeler and 10-wheeler), A-frame, Winch, Dynamite Seeding, Mulching, Agitator, Water, Attenuator, Light Towers, Cement (all types), Suburban, Station Wagons, Cars, Pick Ups, any vehicle carrying materials of any kind.
GROUP AA: Tack Coat
GROUP B: Tractor & Trailers (all types).
GROUP BB: Tri-Axle,14 Wheeler
GROUP C: Low Boy (carrying equipment).
GROUP D: Fuel Trucks, Tire Trucks.
GROUP DD: Tow Truck/Flatbed Single axle.
GROUP E: Off-road Equipment (over 40 tons): Athey Wagons, Belly Dumps, Articulated Dumps, Trailer Wagons.
GROUP F: Off-road Equipment (over 40 tons) Euclid, DJB.
GROUP G: Off-road Equipment (under 40 tons) Athey Wagons, Belly Articulated Dumps, Trailer Wagons, Tracker/Crawler Dump Truck.
GROUP H: Off-road Equipment(under 40 tons), Euclid.
GROUP HH: Off-road Equipment(under 40 tons) D.J.B.
GROUP I: Off-road Equipment(under 40 tons) Darts.
GROUP II: Off-road Equipment(under 40 tons) RXS.

WAGES:(per hour)

| | 07/01/2026 |
|---|---|
| GROUP A | $ 49.61* |
| GROUP AA | 52.61* |
| GROUP B | 50.23* |
| GROUP BB | 49.73* |
| GROUP C | 52.36* |
| GROUP D | 50.06* |
| GROUP DD | 38.74* |
| GROUP E | 50.61* |
| GROUP F | 51.61* |
| GROUP G | 50.36* |
| GROUP H | 50.98* |
| GROUP HH | 51.36* |
| GROUP I | 51.11* |
| GROUP II | 51.48* |

* To calculate premium wage, subtract $ .10 from the hourly wage.

Note: Fuel truck operators on construction sites addit. $5.00 per day.

For work on hazardous/toxic waste site addit. 20% of hourly rate.

Note: For aggregate and asphalt delivery, the applicable prevailing rate is based on the type of vehicle operated.

**SHIFT WORK**
When mandated by the contracting agency, DOT, or any governmental agency contracts shall receive a shift differential of fifteen (15%) above the wage rate for all work performed during the irregular shift.

**SUPPLEMENTAL BENEFITS**
Per hour:
Journeyworker

| | |
|---|---|
| First 40 hours | $ 40.83 |
| Over 40 hours | 31.64 |

**OVERTIME PAY**
See (B, E, P, *R, **T) on OVERTIME PAGE
*For code (8,15,25,26) code R applies
**For code (5,6) code T applies

**HOLIDAY**
Paid: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

8-456

## Welder 08/01/2026

**JOB DESCRIPTION** Welder **DISTRICT** 1

**ENTIRE COUNTIES**
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

**WAGES**
Per hour 07/01/2026

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

**OVERTIME PAY**

**HOLIDAY**

1-As Per Trade

## Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

| | |
|---|---|
| ( AA ) | Time and one half of the hourly rate after 7 and one half hours per day |
| ( A ) | Time and one half of the hourly rate after 7 hours per day |
| ( B ) | Time and one half of the hourly rate after 8 hours per day |
| ( B1 ) | Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours |
| ( B2 ) | Time and one half of the hourly rate after 40 hours per week |
| ( B3 ) | Time and one half of the hourly rate after 40 straight hours per week |
| ( C ) | Double the hourly rate after 7 hours per day |
| ( C1 ) | Double the hourly rate after 7 and one half hours per day |
| ( D ) | Double the hourly rate after 8 hours per day |
| ( D1 ) | Double the hourly rate after 9 hours per day |
| ( E ) | Time and one half of the hourly rate on Saturday |
| ( E1 ) | Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours |
| ( E2 ) | Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather |
| ( E3 ) | Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week |
| ( E4 ) | Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather |
| ( E5 ) | Double time after 8 hours on Saturdays |
| ( F ) | Time and one half of the hourly rate on Saturday and Sunday |
| ( G ) | Time and one half of the hourly rate on Saturday and Holidays |
| ( H ) | Time and one half of the hourly rate on Saturday, Sunday, and Holidays |
| ( I ) | Time and one half of the hourly rate on Sunday |
| ( J ) | Time and one half of the hourly rate on Sunday and Holidays |
| ( K ) | Time and one half of the hourly rate on Holidays |
| ( L ) | Double the hourly rate on Saturday |
| ( M ) | Double the hourly rate on Saturday and Sunday |
| ( N ) | Double the hourly rate on Saturday and Holidays |
| ( O ) | Double the hourly rate on Saturday, Sunday, and Holidays |
| ( P ) | Double the hourly rate on Sunday |
| ( Q ) | Double the hourly rate on Sunday and Holidays |
| ( R ) | Double the hourly rate on Holidays |

| | |
|---|---|
| ( S ) | Two and one half times the hourly rate for Holidays |
| ( S1 ) | Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours. |
| ( T ) | Triple the hourly rate for Holidays |
| ( U ) | Four times the hourly rate for Holidays |
| ( V ) | Including benefits at SAME PREMIUM as shown for overtime |
| ( W ) | Time and one half for benefits on all overtime hours. |
| ( X ) | Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.) |

## Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

| | |
|---|---|
| ( 1 ) | None |
| ( 2 ) | Labor Day |
| ( 3 ) | Memorial Day and Labor Day |
| ( 4 ) | Memorial Day and July 4th |
| ( 5 ) | Memorial Day, July 4th, and Labor Day |
| ( 6 ) | New Year's, Thanksgiving, and Christmas |
| ( 7 ) | Lincoln's Birthday, Washington's Birthday, and Veterans Day |
| ( 8 ) | Good Friday |
| ( 9 ) | Lincoln's Birthday |
| ( 10 ) | Washington's Birthday |
| ( 11 ) | Columbus Day |
| ( 12 ) | Election Day |
| ( 13 ) | Presidential Election Day |
| ( 14 ) | 1/2 Day on Presidential Election Day |
| ( 15 ) | Veterans Day |
| ( 16 ) | Day after Thanksgiving |
| ( 17 ) | July 4th |
| ( 18 ) | 1/2 Day before Christmas |
| ( 19 ) | 1/2 Day before New Years |
| ( 20 ) | Thanksgiving |
| ( 21 ) | New Year's Day |
| ( 22 ) | Christmas |
| ( 23 ) | Day before Christmas |
| ( 24 ) | Day before New Year's |
| ( 25 ) | Presidents' Day |
| ( 26 ) | Martin Luther King, Jr. Day |
| ( 27 ) | Memorial Day |
| ( 28 ) | Easter Sunday |

( 29 ) Juneteenth

**New York State Department of Labor - Bureau of Public Work**
**State Office Building Campus**
**Building 12 - Room 130**
**Albany, New York 12226**

# REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

**This Form Must Be Typed**

Submitted By: (Check Only One) ☐ Contracting Agency ☐ Architect or Engineering Firm ☐ Public Work District Office Date:

## A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change)

Telephone Fax

E-Mail:

2. NY State Units (see Item 5).

- ☐ 01 DOT
- ☐ 02 OGS
- ☐ 03 Dormitory Authority
- ☐ 04 State University Construction Fund
- ☐ 05 Mental Hygiene Facilities Corp.
- ☐ 06 OTHER N.Y. STATE UNIT
- ☐ 07 City
- ☐ 08 Local School District
- ☐ 09 Special Local District, i.e., Fire, Sewer, Water District
- ☐ 1O Village
- ☐ 11 Town
- ☐ 12 County
- ☐ 13 Other Non-N.Y. State (Describe)

3. SEND REPLY TO ☐ (check if new or change)
Name and complete address:

Telephone Fax

E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

☐ New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

☐ Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :

OFFICE USE ONLY

## B. PROJECT PARTICULARS

5. Project Title _____

Description of Work _____

Contract Identification Number _____

Note: For NYS units, the OSC Contract No. _____

6. Location of Project:
Location on Site _____

Route No/Street Address _____

Village or City _____

Town _____

County _____

7. Nature of Project - Check One:

- ☐ 1. New Building
- ☐ 2. Addition to Existing Structure
- ☐ 3. Heavy and Highway Construction (New and Repair)
- ☐ 4. New Sewer or Waterline
- ☐ 5. Other New Construction (Explain)
- ☐ 6. Other Reconstruction, Maintenance, Repair or Alteration
- ☐ 7. Demolition
- ☐ 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- ☐ Construction (Building, Heavy Highway/Sewer/Water)
- ☐ Tunnel
- ☐ Residential
- ☐ Landscape Maintenance
- ☐ Elevator maintenance
- ☐ Exterminators, Fumigators
- ☐ Fire Safety Director, NYC Only
- ☐ Fuel Delivery
- ☐ Guards, Watchmen
- ☐ Janitors, Porters, Cleaners, Elevator Operators
- ☐ Moving furniture and equipment
- ☐ Trash and refuse removal
- ☐ Window cleaners
- ☐ Other (Describe)

9. Does this project comply with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

**Signature**

SEE PAGE TWO FOR LAWS RELATING TO PUBLIC WORK CONTRACTS

NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

# LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE AWARDED ANY PUBLIC WORK CONTRACT

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

**Debarment Database:** To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: https://apps.labor.ny.gov/EDList/searchPage.do

**For inquiries please call 518-457-5589.**

## NYSDOL Bureau of Public Work Debarment List 08/14/2026

## Article 8

| AGENCY | Fiscal Officer | FEIN | EMPLOYER NAME | EMPLOYER DBA NAME | ADDRESS | DEBARMENT START DATE | DEBARMENT END DATE |
|---|---|---|---|---|---|---|---|
| DOL | DOL | *****5784 | A.J.M. TRUCKING, INC. | | PO BOX 2064 MONROE NY 10950 | 02/12/2024 | 02/12/2029 |
| DOL | DOL | | AKHLAQ OULAKH | | 4307 28TH AVE ASTORIA NY 11103 | 10/11/2024 | 10/11/2029 |
| DOL | DOL | | ALEXANDER DELISA | | 411 THEODORE FREMND SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | NYC | | ALL COUNTY SEWER & DRAIN, INC. | | 7 GREENFIELD DR WARWICK NY 10990 | 03/25/2022 | 03/25/2027 |
| DOL | DOL | *****8387 | AMERICAN PAVING & MASONRY, CORP. | | 8 FOREST AVE GLEN COVE NY 11542 | 05/24/2024 | 05/24/2029 |
| DOL | DOL | *****8654 | AMERICAN PAVING, INC. | | 8 FORREST AVE. GLEN COVE NY 11542 | 05/24/2024 | 05/24/2029 |
| DOL | NYC | *****8017 | AMIN ELECTRICAL CORP. | | 97-23 218TH STREET QUEENS VILLAGE NY 11429 | 12/04/2025 | 12/04/2030 |
| DOL | DOL | | ANGELO STANCO | | 8 FOREST AVE. GLEN COVE NY 11542 | 05/24/2024 | 05/24/2029 |
| DOL | DOL | | ANGELO TONDO | | 449 WEST MOMBSHA ROAD MONROE NY 10950 | 06/06/2022 | 06/06/2027 |
| DOL | DOL | *****4231 | ANKER'S ELECTRIC SERVICE, INC. | | 10 SOUTH 5TH ST LOCUST VALLEY NY 11560 | 09/26/2022 | 09/26/2027 |
| DOL | DOL | | ANTHONY CASALE | | 20 HEATHER RIDGE ROAD TROY NY 12180 | 05/20/2025 | 05/20/2030 |
| DOL | DOL | | ANTHONY MONGELLI | | PO BOX 2064 MONROE NY 10950 | 02/12/2024 | 02/12/2029 |
| DOL | DOL | *****8421 | B & B DRYWALL, INC | | 206 WARREN AVE APT 1WHITE PLAINS NY 10603 | 12/14/2021 | 12/14/2026 |
| DOL | DOL | *****3932 | B ROC CONSTRUCTION INC | | 7307 WOODSIDE ROAD VICTOR NY 14564 | 05/06/2025 | 05/06/2030 |
| DOL | DA | *****2404 | BJA RENOVATION, CORP | | 33 DOLLARD DR NORTH BABYLON NY 11703 | 03/19/2025 | 03/19/2030 |
| DOL | DOL | *****5078 | BLACK RIVER TREE REMOVAL, LLC | | 29807 ANDREWS ROAD BLACK RIVER NY 13032 | 10/17/2023 | 10/17/2028 |
| DOL | DOL | | C.M.C CONTRACTORS, INC. | | 500 WEST PUTNAM AVE SUITE 400GREENWICH CT 06830 | 09/03/2025 | 09/03/2030 |
| DOL | DOL | | CARLOS F. ESCOBAR | | 411 THEODORE FREMD AVE SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | DOL | | CARLOS FIGUEROA | | 411 THEODORE FREMND AVE SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | DOL | *****4155 | CASA BUILDERS, INC. | FRIEDLANDER CONSTRUCTION | 64 N PUTT CONNERS ROAD NEW PALTZ NY 12561 | 05/10/2023 | 05/10/2028 |
| DOL | DOL | | CESAREO TULA | | 120 SEARS AVE ELMSFORD NY 10523 | 09/26/2025 | 09/26/2030 |
| DOL | DOL | *****2292 | CHAMPION MAINTENANCE CONTRACTORS, INC. | | 211 SOUTH RIDGE STREET RYE BROOK NY 10573 | 09/03/2025 | 09/03/2030 |
| DOL | NYC | *****2117 | CHARAN ELECTRICAL ENTERPRISES | | 9-11 40TH AVENUE LONG ISLAND CITY NY 11101 | 09/26/2023 | 09/26/2028 |
| DOL | DOL | | CHARLES CASALE | | 55 MAIN AVENUE WYNANTSKILL NY 12198 | 05/20/2025 | 05/20/2030 |
| DOL | DOL | | CHARLES CASALE | | 55 MAIN AVENUE WYNANTSKILL NY 12198 | 05/20/2025 | 05/20/2030 |
| DOL | DOL | | CHRISTOPHER PEROSI | | 5507 NESCONSET HIGHWAY MT. SINAI NY 11766 | 07/17/2025 | 07/17/2030 |
| DOL | DOL | *****2281 | CORRAO TRUCKING, INC. | | PO BOX 393 NANUET NY 10954 | 09/17/2024 | 09/17/2029 |
| DOL | DOL | | CRAIG JOHANSEN | | 10 SOUTH 5TH ST LOCUST VALLEY NY 11560 | 09/26/2022 | 09/26/2027 |
| DOL | DOL | *****7619 | DANCO CONSTRUCTION UNLIMITED INC. | | 485 RAFT AVENUE HOLBROOK NY 11741 | 10/19/2021 | 10/19/2026 |
| DOL | DOL | | DANIEL DELISA | | 211 SOUTH RIDGE STREET RYE BROOK NY 10573 | 09/03/2025 | 09/03/2030 |
| DOL | DOL | | DANIEL LOHAN | | 6836 N. LEXINGTON LANE NILES IL 60714 | 05/28/2026 | 05/28/2031 |
| DOL | DOL | | DANIEL ROBERT MCNALLY | | 7 GREENFIELD DRIVE WARWICK NY 10990 | 03/25/2022 | 03/25/2027 |
| DOL | DOL | | DARWIN PEGUESE | | 6400 BALTIMORE NATIONAL SUITE 602CANTONSVILLE NY 21228 | 10/24/2024 | 10/24/2029 |
| DOL | DOL | | DAVID FRIEDLANDER | | 64 NORTH PUTT CORNERS RD NEW PALTZ NY 12561 | 05/10/2023 | 05/10/2028 |
| DOL | DOL | | DENISE NAGLE | | 36 OAKWOOD TRAIL S AL MONROE NY 10950 | 10/29/2025 | 10/29/2030 |

## NYSDOL Bureau of Public Work Debarment List 08/14/2026

## Article 8

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DOL | DOL | | DINA TAYLOR | | 64 N PUTT CONNERS RD<br>NEW PALTZ NY 12561 | 05/10/2023 | 05/10/2028 |
| DOL | DOL | *****2337 | EGL DRAINAGE SOLUTION & REPAIRS LLC | | 5507 NESCONSET HIGHWAY<br>MT. SINAI NY 11766 | 07/17/2025 | 07/17/2030 |
| DOL | DOL | *****0780 | EMES HEATING & PLUMBING CONTR | | 5 EMES LANE<br>MONSEY NY 10952 | 01/20/2002 | 01/20/3002 |
| DOL | DOL | | EMIL KISZKO | | 84 DIAMOND ST<br>BROOKLYN NY 11222 | 07/18/2024 | 07/18/2029 |
| DOL | DOL | *****3298 | EMJACK CONSTRUCTION CORP. | | 84 DIAMOND ST<br>BROOKLYN NY 11222 | 07/18/2024 | 07/18/2029 |
| DOL | DOL | *****3298 | EMJACK CONSTRUCTION LLC | | 4192 SIR ANDREW CIRCLE<br>DOYLESTOWN PA 18902 | 07/18/2024 | 07/18/2029 |
| DOL | NYC | | ENRICO MANETTA | | 101 MALBA DR.<br>WHITESTONE NY 11357 | 04/01/2026 | 04/01/2031 |
| DOL | DOL | | EUGENIUSZ "GINO" KUCHAR | | 195 KINGSLAND AVE<br>BROOKLYN NY 11222 | 12/22/2023 | 12/22/2028 |
| DOL | DOL | *****2998 | G.E.M. AMERICAN CONSTRUCTION CORP. | | 195 KINGSLAND AVE<br>BROOKLYN NY 11222 | 12/22/2023 | 12/22/2028 |
| DOL | DA | | GEORGE LUCEY | | 150 KINGS STREET<br>BROOKLYN NY 11231 | 01/19/1998 | 01/19/2998 |
| DOL | NYC | | GHANSHYAM AMIN | | 97-23 218TH STREET<br>QUEENS VILLAGE NY 11429 | 12/04/2025 | 12/04/2030 |
| DOL | DA | | GIOVANNA TRAVALJA | | 3735 9TH ST<br>LONG ISLAND CITY NY 11101 | 01/05/2023 | 01/05/2028 |
| DOL | DA | | GIOVANNI NAPOLITANO | | 2501 BAYVIEW AVENUE<br>WANTAGH NY 11793 | 02/21/2024 | 02/21/2029 |
| DOL | DA | *****0213 | GORILLA CONTRACTING GROUP, LLC | | 505 MANHATTAN AVE<br>WEST BABYLON NY 11704 | 10/05/2023 | 10/05/2028 |
| DOL | DA | *****4760 | GTX CONSTRUCTION ASSOCIATES, CORP | | 2501 BAYVIEW AVE<br>WANTAGH NY 11793 | 02/21/2024 | 02/21/2029 |
| DOL | DOL | | HENRY WICKE A/K/A HENRY WICKE, JR. | | 36 OAKWOOD TRAIL S AL<br>MONROE NY 10950 | 10/29/2025 | 10/29/2030 |
| DOL | DOL | | HERBERT CLEMEN | | 42 FOWLER AVENUE<br>CORTLAND MANOR NY 10567 | 01/24/2023 | 01/24/2028 |
| DOL | DOL | | HERBERT CLEMEN | | 42 FOWLER AVENUE<br>CORTLAND MANOR NY 10567 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | *****6961 | HUNTER ELEVATOR COMPANY, INC. | | 36 OAKWOOD TRAIL S AL<br>MONROE NY 10950 | 10/29/2025 | 10/29/2030 |
| DOL | DOL | *****2397 | ISLAND BREEZE MARINE, INC. | | 6400 BALTIMORE NATIONAL<br>CANTONSVILLE MD 21228 | 10/24/2024 | 10/24/2029 |
| DOL | DOL | *****5010 | J. LINDSLEY ENTERPRISE, LLC | | 1002 STATE ROUTE 176<br>FULTON NY 13069 | 07/30/2025 | 07/30/2030 |
| DOL | DOL | *****0241 | J. LINDSLEY ROOFING, LLC | | 211 NORTH 2ND STREET<br>FULTON NY 13069 | 07/30/2025 | 07/30/2030 |
| DOL | DOL | | J.M.J CONSTRUCTION | | 151 OSTRANDER AVENUE<br>SYRACUSE NY 13205 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | | J.R. NELSON CONSTRUCTION | | 531 THIRD STREET<br>ALBANY NY 12206 | 11/07/2023 | 11/07/2028 |
| DOL | DOL | | J.R. NELSON CONSTRUCTION | | 531 THIRD STREET<br>ALBANY NY 12206 | 12/22/2022 | 12/22/2027 |
| DOL | DOL | | J.R. NELSON CONSTRUCTION | | 531 THIRD STREET<br>ALBANY NY 12206 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | | J.R. NELSON, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 12/22/2022 | 12/22/2027 |
| DOL | DOL | | J.R. NELSON, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 11/07/2023 | 11/07/2028 |
| DOL | DOL | | J.R. NELSON, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | | J.R.N COMPANIES, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 12/12/2022 | 12/12/2027 |
| DOL | DOL | | J.R.N COMPANIES, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 11/07/2023 | 11/07/2028 |
| DOL | DOL | | J.R.N COMPANIES, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | *****1147 | J.R.N. CONSTRUCTION, LLC | | 531 THIRD ST<br>ALBANY NY 12206 | 11/07/2023 | 11/07/2028 |
| DOL | DOL | *****1147 | J.R.N. CONSTRUCTION, LLC | | 531 THIRD ST<br>ALBANY NY 12206 | 12/22/2022 | 12/22/2027 |
| DOL | DOL | *****1147 | J.R.N. CONSTRUCTION, LLC | | 531 THIRD ST<br>ALBANY NY 12206 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | | JAMES J. BAKER | | 7901 GEE ROAD<br>CANASTOTA NY 13032 | 08/17/2021 | 08/17/2026 |
| DOL | DOL | | JAMES LINDSLEY | | 211 NORTH 2ND STREET<br>FULTON NY 13069 | 07/30/2025 | 07/30/2030 |

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|---|---|---|---|---|---|---|---|
| DOL | DOL | | JASON P. RACE | | 3469 STATE RT. 69<br>PERISH NY 13131 | 09/29/2021 | 09/29/2026 |
| DOL | DOL | | JASON P. RACE | | 3469 STATE RT. 69<br>PERISH NY 13131 | 02/09/2022 | 02/09/2027 |
| DOL | DOL | | JASON P. RACE | | 3469 STATE RT. 69<br>PERISH NY 13131 | 11/15/2022 | 11/15/2027 |
| DOL | DOL | | JASON P. RACE | | 3469 STATE RT. 69<br>PERISH NY 13131 | 03/01/2022 | 03/01/2027 |
| DOL | DOL | *****7993 | JBS DIRT, INC. | | 7901 GEE ROAD<br>CANASTOTA NY 13032 | 08/17/2021 | 08/17/2026 |
| DOL | DOL | *****2435 | JEFFEL D. JOHNSON | JMJ7 AND SON | 5553 CAIRNSTRAIL<br>CLAY NY 13041 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | | JEFFEL JOHNSON ELITE CARPENTER REMODEL AND CONSTRUCTION | | C2 EVERGREEN CIRCLE<br>LIVERPOOL NY 13090 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | *****2435 | JEFFREY M. JOHNSON | JMJ7 AND SON | 5553 CAIRNS TRAIL<br>CLAY NY 13041 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | | JENNIFER LINDSLEY | | 211 NORTH 2ND STREET<br>FULTON NY 13069 | 07/30/2025 | 07/30/2030 |
| DOL | DOL | | JERRY DASTON | | 36 OAKWOOD TRAIL S AL<br>MONROE NY 10950 | 10/29/2025 | 10/29/2030 |
| DOL | DOL | | JMJ7 & SON CONSTRUCTION, LLC | | 5553 CAIRNS TRAIL<br>LIVERPOOL NY 13041 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | | JMJ7 AND SONS CONTRACTORS | | 5553 CAIRNS TRAIL<br>CLAY NY 13041 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | | JMJ7 CONTRACTORS | | 7014 13TH AVENUE<br>BROOKLYN NY 11228 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | | JMJ7 CONTRACTORS AND SONS | | 5553 CAIRNS TRAIL<br>CLAY NY 13041 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | | JMJ7 CONTRACTORS, LLC | | 5553 CAIRNS TRAIL<br>CLAY NY 13041 | 11/21/2022 | 11/21/2027 |
| DOL | DOL | | JOHN NAGLE A/K/A JOHN NAGLE, JR. | | 36 OAKWOOD TRAIL S AL<br>MONROE NY 10950 | 10/29/2025 | 10/29/2030 |
| DOL | DOL | | JONATHAN DELISA | | 411 THEODORE FREMND AVE<br>SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | DOL | | JORGE FIGUEROA | | 411 THEODORE FRMND AVE<br>SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | DA | | JOSEPH DEMASCO | | 33 DOLLARD DRIVE<br>NORTH BABYLON NY 11703 | 01/30/2026 | 01/30/2031 |
| DOL | DA | | JOSEPH DEMASCO | | 33 DOLLARD DRIVE<br>NORTH BABYLON NY 11703 | 03/19/2025 | 03/19/2030 |
| DOL | DOL | | JOSEPH HALL | | 937 US ROUTE 11<br>CENTRAL SQUARE NY 13036 | 10/21/2024 | 10/21/2029 |
| DOL | DOL | *****2271 | JOSEPH HALL COMPANIES LLC | | 937 US ROUTE 11<br>CENTRAL SQUARE NY 13036 | 10/21/2024 | 10/21/2029 |
| DOL | DOL | | JOSEPH K. SALERNO | | 1010 TILDEN AVE<br>UTICA NY 13501 | 07/24/2023 | 07/24/2028 |
| DOL | DOL | | JOSEPH K. SALERNO II | | 1010 TILDEN AVE<br>UTICA NY 13501 | 07/24/2023 | 07/24/2028 |
| DOL | DOL | *****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69<br>PERISH NY 13131 | 02/09/2022 | 02/09/2027 |
| DOL | DOL | *****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69<br>PERISH NY 13131 | 11/15/2022 | 11/15/2027 |
| DOL | DOL | *****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69<br>PERISH NY 13131 | 09/29/2021 | 09/29/2026 |
| DOL | DOL | *****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69<br>PERISH NY 13131 | 03/01/2022 | 03/01/2027 |
| DOL | DOL | *****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69<br>PERISH NY 13131 | 03/01/2022 | 03/01/2027 |
| DOL | DOL | | JRN CONSTRUCTION CO, LLC | | 1024 BROADWAY<br>ALBANY NY 12204 | 11/07/2023 | 11/07/2028 |
| DOL | DOL | *****1147 | JRN CONSTRUCTION, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | *****1147 | JRN CONSTRUCTION, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 12/22/2022 | 12/22/2027 |
| DOL | DOL | *****1147 | JRN CONSTRUCTION, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 11/07/2023 | 11/07/2028 |
| DOL | DOL | | JRN PAVING, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | | JRN PAVING, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 12/22/2022 | 12/22/2027 |
| DOL | DOL | | JRN PAVING, LLC | | 531 THIRD STREET<br>ALBANY NY 12206 | 11/07/2023 | 11/07/2028 |
| DOL | DOL | | JULIUS AND GITA BEHREND | | 5 EMES LANE<br>MONSEY NY 10952 | 11/20/2002 | 11/20/3002 |

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|---|---|---|---|---|---|---|---|
| DOL | DOL | | KEAN INDUSTRIES, LLC | | 2345 RT. 52<br>SUITE 2NHOPEWELL<br>JUNCTION NY 12533 | 12/18/2023 | 12/18/2028 |
| DOL | DOL | | KEVIN FUNEZ URBINA A/K/A<br>KEVIN FUNEZ | | 1009 LYNDALE AVE<br>TRENTON NJ 08629 | 12/16/2024 | 12/16/2029 |
| DOL | DOL | | KIMBERLY F. BAKER | | 7901 GEE ROAD<br>CANASTOTA NY 13032 | 08/17/2021 | 08/17/2026 |
| DOL | DOL | *****8760 | KJ&J CONSTRUCTION, LLC | | 1009 LYNDALE AVE<br>TRENTON NJ 08629 | 12/16/2024 | 12/16/2029 |
| DOL | DOL | | KMA GROUP II, INC. | | 29-10 38TH AVENUE<br>LONG ISLAND CITY NY 11101 | 10/11/2023 | 10/11/2028 |
| DOL | DOL | *****1833 | KMA GROUP INC. | | 29-10 38TH AVENUE<br>LONG ISLAND CITY NY 11101 | 10/11/2023 | 10/11/2028 |
| DOL | DOL | | KMA INSULATION, INC. | | 29-10 38TH AVENUE<br>LONG ISLAND CITY NY 11101 | 10/11/2023 | 10/11/2028 |
| DOL | DOL | | KRIN HEINEMANN | | 2345 ROUTE 52, SUITE 2N<br>HOPEWELL JUNCTION NY<br>12533 | 12/18/2023 | 12/18/2028 |
| DOL | NYC | | KULWANT S. DEOL | | 9-11 40TH AVENUE<br>LONG ISLAND CITY NY 11101 | 09/26/2023 | 09/26/2028 |
| DOL | DA | *****8816 | LAKE CONSTRUCTION AND<br>DEVELOPMENT<br>CORPORATION | | 150 KINGS STREET<br>BROOKLYN NY 11231 | 08/19/1998 | 08/19/2998 |
| DOL | DOL | | LEROY E. NELSON JR | | 531 THIRD ST<br>ALBANY NY 12206 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | | LEROY E. NELSON JR | | 531 THIRD ST<br>ALBANY NY 12206 | 12/22/2022 | 12/22/2027 |
| DOL | DOL | | LEROY E. NELSON JR | | 531 THIRD ST<br>ALBANY NY 12206 | 11/07/2023 | 11/07/2028 |
| DOL | DOL | *****3716 | LIGHTNIN ELECTRIC INC. | | 3418 NORTHERN BLVD<br>SUITE 5-27LONG ISLAND CITY<br>NY 11101 | 12/13/2024 | 12/13/2029 |
| DOL | AG | *****3291 | LINTECH ELECTRIC, INC. | | 3006 TILDEN AVE<br>BROOKLYN NY 11226 | 02/16/2022 | 02/16/2027 |
| DOL | DOL | | LIZETTE PONCE | | 411 THEODORE FREMND AVE<br>SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | NYC | *****7516 | MANCO ENTERPRISES OF NY,<br>INC. | | 44-17 54TH DR.<br>MASPETH NY 11378 | 04/01/2026 | 04/01/2031 |
| DOL | NYC | *****1783 | MANETTA ENTERPISES, INC.<br>D/B/A MANETTA INDUSTRIES | | 44-17 54TH DR.<br>MASPETH NY 11378 | 04/01/2026 | 04/01/2031 |
| DOL | DA | | MANUEL P TOBIO | | 150 KINGS STREET<br>BROOKLYN NY 14444 | 08/19/1998 | 08/19/2998 |
| DOL | DA | | MANUEL TOBIO | | 150 KINGS STREET<br>BROOKLYN NY 11231 | 08/19/1998 | 08/19/2998 |
| DOL | DOL | *****1320 | MJC MASON CONTRACTING,<br>INC. | | 42 FOWLER AVENUE<br>CORTLAND MANOR NY 10567 | 10/25/2022 | 10/25/2027 |
| DOL | DOL | *****1320 | MJC MASON CONTRACTING,<br>INC. | | 42 FOWLER AVENUE<br>CORTLAND MANOR NY 10567 | 01/24/2023 | 01/24/2028 |
| DOL | DOL | | MOHAMMAD MIAN | | 8269 21ST ST<br>BELLEROSE NY 11426 | 12/22/2022 | 12/22/2027 |
| DOL | NYC | | NASEER CHAUDHRY | | 2349 BRAGG STREET<br>BROOKLYN NY 11229 | 04/22/2025 | 04/22/2030 |
| DOL | DOL | *****7790 | NATIONAL BUILDING &<br>RESTORATION CORP | | 1010 TILDEN AVE<br>UTICA NY 13501 | 07/24/2023 | 07/24/2028 |
| DOL | DOL | *****1797 | NATIONAL CONSTRUCTION<br>SERVICES, INC | | 1010 TILDEN AVE<br>UTICA NY 13501 | 07/24/2023 | 07/24/2028 |
| DOL | NYC | | NAVIT SINGH | | 402 JERICHO TURNPIKE<br>NEW HYDE PARK NY 11040 | 08/10/2022 | 08/10/2027 |
| DOL | DOL | | NELCO CONTRACTING, LLC | | 1024 BROADWAY<br>ALBANY NY 12204 | 11/07/2023 | 11/07/2028 |
| DOL | DA | | NICHOLAS BARNETT | | 33 DOLLARD DR<br>BABYLON NY 11703 | 03/04/2025 | 03/04/2030 |
| DOL | DOL | | NICHOLAS RAO | | 411 THEODORE FREMND AVE<br>SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | DA | | NICHOLAS T. ANALITIS | | 505 MANHATTAN AVE<br>WEST BABYLON NY 11704 | 10/05/2023 | 10/05/2028 |
| DOL | DOL | | NICHOLE E. FRASER A/K/A<br>NICHOLE RACE | | 3469 STATE RT. 69<br>PERISH NY 13131 | 03/01/2022 | 03/01/2027 |
| DOL | DOL | | NICHOLE E. FRASER A/K/A<br>NICHOLE RACE | | 3469 STATE RT. 69<br>PERISH NY 13131 | 11/15/2022 | 11/15/2027 |
| DOL | DOL | | NICHOLE E. FRASER A/K/A<br>NICHOLE RACE | | 3469 STATE RT. 69<br>PERISH NY 13131 | 09/29/2021 | 09/29/2026 |
| DOL | DOL | | NICHOLE E. FRASER A/K/A<br>NICHOLE RACE | | 3469 STATE RT. 69<br>PERISH NY 13131 | 02/09/2022 | 02/09/2027 |

## NYSDOL Bureau of Public Work Debarment List 08/14/2026

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|---|---|---|---|---|---|---|---|
| DOL | DOL | | NIKOLA NTONI | | 3418 NORTHERN BLVD SUITE 5-27LONG ISLAND CITY NY 11101 | 12/13/2024 | 12/13/2029 |
| DOL | NYC | *****6971 | NN CONSTRUCTION, INC. | | 2349 BRAGG STREET BROOKLYN NY 11229 | 04/22/2025 | 04/22/2030 |
| DOL | NYC | *****5643 | NYC LINE CONTRACTORS, INC. | | 402 JERICHO TURNPIKE NEW HYDE PARK NY 11040 | 08/10/2022 | 08/10/2027 |
| DOL | DOL | | PATRICK PENNACCHIO | | 2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533 | 12/18/2023 | 12/18/2028 |
| DOL | DOL | | PATRICK PENNACCHIO | | 2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533 | 12/18/2023 | 12/18/2028 |
| DOL | DOL | *****4168 | PHANTOM CONSTRUCTION CORP. | | 95-27 116TH STREET QUEENS NY 11419 | 07/12/2024 | 07/12/2029 |
| DOL | DOL | *****4168 | PHANTOM CONSTRUCTION CORP. | | 95-27 116TH STREET QUEENS NY 11419 | 05/28/2024 | 05/28/2029 |
| DOL | DOL | *****2041 | QUALITY STEEL ERECTORS INC. | | 6836 N. LEXINGTON LANE NILES IL 60714 | 05/28/2026 | 05/28/2031 |
| DOL | DOL | *****4772 | R.W. LOBDELL CONSTRUCTION LLC | | 635 WEST DRYDEN ROAD FREEVILLE NY 13068 | 01/31/2025 | 01/31/2030 |
| DOL | DOL | *****2633 | RAW POWER ELECTRIC CORP. | | 3 PARK CIRCLE MIDDLETOWN NY 10940 | 07/11/2022 | 07/11/2027 |
| DOL | DOL | | ROBBYE BISSESAR | | 89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427 | 01/11/2003 | 01/11/3003 |
| DOL | DOL | | ROMEO WARREN | | 161 ROBYN RD MONROE NY 10950 | 07/11/2022 | 07/11/2027 |
| DOL | DOL | | ROSA GARCIA | | 411 THEODORE FRMND AVE SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | DOL | *****7172 | RZ & AL INC. | | 198 RIDGE AVENUE VALLEY STREAM NY 11581 | 06/06/2022 | 06/06/2027 |
| DOL | DA | *****0476 | SAMCO ELECTRIC CORP. | | 3735 9TH ST LONG ISLAND CITY NY 11101 | 01/05/2023 | 01/05/2028 |
| DOL | DA | | SILVANO TRAVALJA | | 3735 9TH ST LONG ISLAND CITY NY 11101 | 01/05/2023 | 01/05/2028 |
| DOL | NYC | *****3661 | SPANIER BUILDING MAINTENANCE CORP | | 200 OAK DRIVE SYOSSET NY 11791 | 03/14/2022 | 03/14/2027 |
| DOL | DOL | | STANADOS KALOGELAS | | 485 RAFT AVENUE HOLBROOK NY 11741 | 10/19/2021 | 10/19/2026 |
| DOL | DOL | *****3496 | STAR INTERNATIONAL INC | | 89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427 | 08/11/2003 | 08/11/3003 |
| DOL | DOL | | STEVEN DELISA | | 411 THEODORE FREMND AVE SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | DOL | *****9150 | SURGE INC. | | 8269 21ST STREET BELLEROSE NY 11426 | 12/22/2022 | 12/22/2027 |
| DOL | DOL | | SYED MUHAMMAD S. JAFRI A/K/A SHARRUKH JAFRI | | 4307 28TH AVE ASTORIA NY 11103 | 10/11/2024 | 10/11/2029 |
| DOL | DOL | | SYED RAZA | | 198 RIDGE AVENUE NY 11581 | 06/06/2022 | 06/06/2027 |
| DOL | DOL | | TARLOK SINGH | | 95-27 116TH STREET QUEENS NY 11419 | 05/28/2024 | 05/28/2029 |
| DOL | DOL | | TARLOK SINGH | | 95-27 116TH STREET QUEENS NY 11419 | 07/12/2024 | 07/12/2029 |
| DOL | DOL | *****4855 | TECH INDUSTRIES LLC | | 20 HEATHER RIDGE ROAD TROY NY 12180 | 05/20/2025 | 05/20/2030 |
| DOL | DOL | *****2426 | THE MATRUKH GROUP, INC. | | 4307 28TH AVE PO BOX 9082ASTORIA NY 11103 | 10/11/2024 | 10/11/2029 |
| DOL | DOL | | THOMAS LOBDELL | | 635 WEST DRYDEN ROAD FREEVILLE NY 13068 | 01/31/2025 | 01/31/2030 |
| DOL | DOL | | TIMOTHY PERCY | | 29807 ANDREWS ROAD BLACK RIVER NY 13612 | 10/17/2023 | 10/17/2028 |
| DOL | DA | *****1050 | TRI STATE CONSTRUCTION OF NY CORP. | | 50-39 175TH PLACE FRESH MEADOWS NY 11365 | 03/28/2022 | 03/28/2027 |
| DOL | DOL | *****8485 | TULA PLUMBING AND HEATING LLC | | 120 SEARS AVE ELMSFORD NY 10523 | 09/26/2025 | 09/26/2030 |
| DOL | DOL | *****8210 | UPSTATE CONCRETE & MASONRY CONTRACTING CO INC | | 449 WEST MOMBSHA ROAD MONROE NY 10950 | 06/06/2022 | 06/06/2027 |
| DOL | DOL | | VINCENT CORRAO | | PO BOX 393 NANUET NY 10954 | 09/17/2024 | 09/17/2029 |
| DOL | DOL | | WILLIAM A BELL | | 7307 WOODSIDE ROAD VICTOR NY 14564 | 05/06/2025 | 05/06/2030 |
| DOL | DOL | *****8266 | WILLIAM CHRIS MCCLENDON | MCCLENDON ASPHALT PAVING | 1646 FALLS STREET NIAGARA FALLS NY 14303 | 05/01/2023 | 05/01/2028 |

## NYSDOL Bureau of Public Work Debarment List 08/14/2026

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|---|---|---|---|---|---|---|---|
| DOL | DOL | | WILLIAM CHRIS MCCLENDON | | 1646 FALLS STREET<br>NIAGARA FALLS NY 14303 | 05/01/2023 | 05/01/2028 |
| DOL | DOL | | WILLIAM SCRIVENS | | 4192 SIR ANDREW CIRCLE<br>DOYELSTOWN PA 18902 | 07/18/2024 | 07/18/2029 |
| DOL | DOL | *****9494 | WND CONSTRUCTION LLC | | 411 THEODORE FREMD AVENUE<br>SUITE 206RYE NY 10580 | 09/03/2025 | 09/03/2030 |
| DOL | DOL | | XENOFON EFTHIMIADIS | | 29-10 38TH AVENUE<br>LONG ISLAND CITY NY 11101 | 10/11/2023 | 10/11/2028 |

Adelaide
ENVIRONMENTAL HEALTH

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# RENOVATION SURVEY
# FOR
# ASBESTOS-CONTAINING MATERIALS, LEAD-BASED PAINT & PCBs

**PERFORMED AT:**

Yonkers Armory
2 Quincy Place
Yonkers, New York 10701
Adelaide Project# BA:23168.00-IN
OGS Project# 47477

**PREPARED FOR:**

Greg Springer
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**PREPARED BY:**
Jason Fullum
June 15, 2023

**REVIEWED BY:**



Stephanie A. Soter
President

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## 1.0 Introduction

### 1.1 Scope of Work / Project Personnel

Adelaide Environmental Health Associates, Inc. **(Adelaide)** performed an Asbestos, Lead and PCB Survey for Building/Structure Demolition, Renovation, Remodeling and/or Repair, in conformance with ALL Federal, State and Local regulations for Bergmann:

| | |
|---|---|
| **SURVEY LOCATION(S):** | Yonkers Armory, 2 Quincy Place, Yonkers, New York 10701 |
| **SURVEY DATE(S):** | June 6, 2023 |
| **SCOPE OF WORK:** | Entire building renovation excluding the roof. |
| **SCOPE OF WORK BUILDING/ STRUCTURE PLANS UTILIZED:** | As built drawings from 1985 were utilized for the inspection. |
| **CERTIFIED ADELAIDE PERSONNEL:** | Jason Fullum (NYS Asbestos Inspector/Cert. #97-20574 and EPA Lead-based Paint Risk Assessor/Cert. #LBP-R-12098-2) |
| **SITE CONTACT(S):** | Trentin Reese - Bergmann |

### 1.2 Executive Summary

On June 6, 2023, **Adelaide** inspected the first floor, second floor and exterior areas that will be affected by the proposed scope of work for suspect ACM, LBP and PCBs.

| SUSPECT HAZARDOUS MATERIAL | SAMPLE(S)/LAYER(S)/ READING(S) COLLECTED | SAMPLE(S) / HOMOGENEOUS AREA(S) IDENTIFIED POSITIVE |
|---|---|---|
| Asbestos-containing Materials (ACM): | 56 | 0 |
| Lead-based Paint (LBP): | 31 (plus calibrations) | 0 |
| PolyChlorinated Biphenyls (PCB): | 6 | 0 |

The following indicates assumed materials due to live electric at the time of the inspection.

- PACM electrical wiring insulation and panels, mirror mastic

There are **asbestos materials that will be impacted** by this scope of work as described in section 1.1. These materials are listed in section 2.1.

### 1.3 Conclusions and Recommendations

The following conclusions and recommendations are prepared by **Adelaide** as per the provided scope of work for Building/Structure Demolition, Renovation, Remodeling and/or Repair. Should the scope of work change, it is recommended that the findings be revisited to determine if additional sampling will be required to satisfy ALL Federal, State and Local regulations.

The materials sampled, as part of this survey, were limited to building materials potential affected by the provided scope of work only. All building materials outside the scope of work that have the potential to be disturbed, impacted, or if the scope of work is to change, are to be presumed asbestos-containing materials (PACM). Identified PACM **must** either be sampled by a licensed NYS Asbestos Inspector and/or abated/removed and disposed of by a licensed NYS Asbestos Abatement Contractor.

## 1.4 Asbestos-containing Materials (ACM)

- This survey concluded that the materials listed in Section 2.1 are assumed ***positive for asbestos***.

- There are asbestos materials that will be impacted by this scope of work. These materials are listed in section 2.1. Refer to Appendix A for the approximate location of the above materials in the affected scope of work.

- Subpart 56-5(h) of 12 NYCRR Part 56 requires that no demolition, renovation, remodeling, or repair work be commenced by any owner or the owner's agent prior to the completion of asbestos abatement. Asbestos abatement must be performed by an asbestos abatement contractor that maintains a current asbestos handling license and employs NYSDOL/NYCDEP certified asbestos handlers and supervisors. It is recommended that a 12 NYCRR 56 certified Project Monitor oversee abatement activities.

- Subpart 56-5(g) of 12 NYCRR Part 56 specifies requirements for transmittal of asbestos survey information by the owner or owner's agent. (1) One copy of the asbestos survey report shall be sent to the local government entity charged with issuing a permit for such demolition, renovation, remodeling, or repair work under applicable State or local laws. (2) If controlled demolition or pre-demolition activities will be performed, one copy of the asbestos survey report shall be submitted to the appropriate Asbestos Control Bureau district office. (3) One copy of the asbestos survey report must be kept on the construction site throughout the duration of the asbestos project and any associated demolition, renovation, remodeling, or repair project.

## 1.5 Lead-based Paint (LBP)

- This survey concluded that the readings summarized in Section 2.3 and Appendix E tested ***negative for lead-based paint.***

## 1.6 PolyChlorinated Biphenyls (PCB)

- This survey concluded that the materials listed in Section 2.4 and Appendix F tested ***negative for PCBs.***

## 2.0 Summary of Hazardous Materials

### 2.1 Summary of Identified ACM/PACM

KEY: **ACM** = Materials containing greater than 1% of asbestos; **HA** = Homogeneous Area; **LF** = Linear Feet; **SF** = Square Feet; **PACM** = Presumed Asbestos-containing Materials; **Friable** = ACM capable of being released into air, and which can be crumbled, pulverized, powdered, crushed or exposed by hand-pressure; [A] = Material is considered non-friable solely in an intact and undisturbed state, however, may be rendered friable if pulverized or crumbled while in dry state.

Samples collected by **Adelaide** June 6, 2023

| HA | Identified ACM | ACM Location(s) | Approx. Qty. | Condition | Friable? (Yes or No) |
|---|---|---|---|---|---|
| PACM | Electrical Wire Insulation and Panels | Throughout | Unknown | Unknown | No |

| HA | Identified ACM | ACM Location(s) | Approx. Qty. | Condition | Friable? (Yes or No) |
|---|---|---|---|---|---|
| PACM | Bathroom Mirror Mastic | Men's and Women's Bathrooms and Locker Rooms | 11 Mirrors | Good | No |

## 2.2 Summary of Identified Non-ACM

Samples collected by **Adelaide** June 6, 2023

| Identified Non-ACM | Sample Location(s) |
|---|---|
| 12x12 Brown/Red Mottled Floor Tile | 2nd Floor |
| Black Floor Mastic | |
| 2x4 Ceiling Tile – Large and Small Holes | |
| Debris on Top of Ceiling Tiles | |
| 2x4 Ceiling Tile – Squiggles and Holes | |
| CMU Mortar | Throughout |
| 4" Black Covebase and Mastic | |
| Yellow Carpet Mastic | 2nd Floor |
| 12x12 Green Mottled Floor Tile | |
| Drywall Ceiling and Joint Compound | Throughout |
| 12x12 Brown and White Mottled Floor Tile | 2nd Floor |
| 12x12 White with Gray Specks Floor Tile | |
| Terrazzo Shower Base | Locker Rooms |
| Sealant at Shower | |
| Exterior Door Glazing Compound | Throughout |
| Exterior Door Sealant | |
| Concrete | |
| Brick Mortar | |
| Exterior Vertical Sealant | |
| Pin Mastic on Ductwork | Boiler Room |
| Wall Tile – Grout and Mudset | Kitchen |
| Floor Tile – Grout and Mudset | |
| Exterior Door Caulk | Throughout |
| Exterior Louver Caulk | |

## 2.3 Summary of Identified LBP

Based on review of the data generated by the Viken Pb200e X-Ray Fluorescence (XRF) Analyzer(s), the following surfaces tested were identified as lead-based, as defined by HUD/EPA (equal to or in excess of 1.0 milligram per square centimeter):

Readings collected by **Adelaide** June 6, 2023

| Location of LBP | LBP Component | Substrate | Color | Condition | Readings (mg/cm2) |
|---|---|---|---|---|---|
| *NO Lead-based Paints identified above HUD/EPA standards of readings collected in reference to the above-mentioned scope of work.* | | | | | |

## 2.4 Summary of Identified PCB-containing Materials

Samples collected by **Adelaide** June 6, 2023

| Sample # | Location / Description | Material Matrix | Color | Substrate | Analytical Result |
|---|---|---|---|---|---|
| *NO PCB-containing materials were identified above the USEPA 40 CFR 761 threshold of 50 ppm(mg/kg) of samples collected/analyzed in reference to the above-mentioned scope of work.* | | | | | |

## 2.5 Observations

ASBESTOS-CONTAINING MATERIALS (ACM)
A visual inspection was performed, and homogeneous material types were established based on appearance, color and texture. The findings presented in this report are based upon reasonably available information and observed site conditions at the time the assessment was performed. The findings and conclusions of this report are not meant to be indicative of future conditions at the site and does not warrant against conditions that were not evident from visual observations or historical information obtained from others.

On June 6, 2023, representative bulk sampling was performed on suspect building materials for laboratory analysis and the following is a summary of installed building materials sampled as per the scope of work provided:

- Ceiling Materials – Ceiling Tiles, Drywall, Joint Compound.
- Wall Materials – CMU Mortar, Brick Mortar, Covebase and Mastic, Grout, Mudset
- Flooring Materials – Floor Tiles, Mastics, Grout, Mudset
- Miscellaneous Materials – Terrazzo, Sealants, Glazing Compound, Concrete, Pin Mastic
- Non-suspect Materials (not sampled) – Fiberglass Insulation, Wood, Glass, Metal.

## 3.0 Asbestos-containing Materials (ACM)

## 3.1 Field Procedures and Analysis Methodology

Guidelines used for the inspection were established by the U.S. Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, DOC# 560/5-85-024 and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA) and Title 12 NYCRR Part 56-5.1. Field information was organized as per the AHERA concept of a

homogeneous area (HA); that is, suspect Asbestos-containing Materials (ACM) with similar age, appearance, and texture were grouped together, sampled and assessed for condition.

For the purposes of this inspection, suspect ACM has been placed in three material categories: thermal, surfacing, and miscellaneous. 1) Surfacing materials are those that are sprayed on, troweled on or otherwise applied to surfaces for fireproofing, acoustical, or decorative purposes (e.g., wall and ceiling plaster). 2) Thermal materials are those applied to heat pipes or other structural components to prevent heat loss or gain or prevent water condensation (e.g., pipe and fitting insulation, duct insulation, boiler flue). 3) Miscellaneous materials are interior building materials on structural components, structural members or fixtures, such as floor and ceiling tiles, etc. and do not include surfacing material or thermal system insulation.

SURFACING MATERIALS

Surfacing materials were grouped into homogeneous sampling areas. A homogeneous area contains material that is uniform in color and texture and appears identical in every other respect. Materials installed at different times belong to different sampling areas. Homogeneous areas were determined on per floor basis.

The following protocol was used for determining the number of samples to be collected:

- At least three bulk samples were collected from each homogeneous area that is 1,000 square feet or less.
- At least five bulk samples were collected from each homogeneous area that is greater than 1,000 square feet but less than or equal to 5,000 square feet.
- At least seven bulk samples were collected from each homogeneous area that is greater than 5,000 square feet.

THERMAL SYSTEM INSULATION (TSI)

The concept of homogeneous sampling areas applies equally well to thermal insulation as to surfacing material. A "typical" building may contain multiple insulated pipe runs from any combination of the following categories:

- Hot water supply and/or return
- Cold water supply
- Chilled water supply
- Steam supply and/or return
- Roof or system drain

The following protocol was used for determining the number of samples to be collected.

- Collect at least three bulk samples from each homogeneous area of thermal system insulation.
- Collect at least one bulk sample from each homogeneous area of patched thermal system insulation if the patched section is less than 6 linear or square feet.
- In a manner sufficient to determine whether the material is ACM or not ACM, collect a minimum of three bulk samples from each homogeneous insulated mechanical system tee, elbow, and valve.

Bulk samples are not collected from any homogeneous area where the certified inspector has determined that the thermal system insulation is fiberglass, foam glass, or rubber.

MISCELLANEOUS MATERIALS

Miscellaneous materials are grouped into different homogeneous areas and at least two bulk samples are collected from each homogeneous area as per the clarification letter from the EPA and the Professional Abatement Contractors of New York, Inc in November of 2007.

Samples collected were analyzed by a laboratory approved under the New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP). Samples were analyzed in the laboratory by Polarized Light Microscopy (PLM), Polarized Light Microscopy-NOB (PLM-NOB) and/or Quantitative Transmission Electron Microscopy (QTEM), as required. Sample collection and laboratory analysis were conducted in compliance with the requirements of Title 12 NYCRR Part 56-5.1, 29 CFR 1926.1101 and standard EPA & OSHA accepted methods. Samples consisting of multiple layers were separated and analyzed independently in the laboratory.

## 3.2 Regulatory Guidelines and Requirements for ACM

FEDERAL

In accordance with the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) established National Emission Standards for hazardous Air Pollutants (NESHAP) to protect the public from exposure to airborne pollutants. Asbestos was one of the air pollutants, which was addressed under the NESHAP 40 CFR Part 61. The purpose of asbestos NESHAP regulations is to protect the public health by minimizing the release of asbestos when facilities, which contain ACM, are being renovated or demolished. EPA is responsible for enforcing regulations related to asbestos during renovations and demolition, however, the CAA allows the EPA to delegate this authority to State and Local Agencies. Even after EPA delegate's responsibility to a state or Local agency, EPA retains the authority to oversee agency performance and to enforce NESHAP regulations as appropriate.

NEW YORK STATE

Asbestos in New York State is regulated under the Labor Law Section 906, Part 56 of Title 12 of the Official Compilation of Codes, Rules, and Regulations. Within the department and for the purpose of the Department of Labor, this part (rule) is known as Industrial Code Rule No. 56 (ICR 56) relating to hazards to the public safety and health, during the removal, encapsulation, or disturbance of friable asbestos, or any handling of ACM that may result in the release of asbestos fiber.

As specified in Title 12 NYCRR Part 56-5.1 (h) and (i), "If the building/structure asbestos survey finds that the portion of the building/structure to be demolished, renovated, remodeled, or have repair work contains ACM, PACM, suspect miscellaneous ACM assumed to be ACM, or asbestos material, which is impacted by the work, the owner or the owner's agent shall conduct, or cause to have conducted, asbestos removal performed by a licensed asbestos abatement contractor in conformance with all standards set forth in this Part. All ACM, PACM, suspect miscellaneous ACM assumed to be ACM, or asbestos material impacted by the demolition, renovation, remodeling or repair project shall be removed as per this Part, prior to access or disturbance by other uncertified trades or personnel. No demolition, renovation, remodeling or repair work shall be commenced by any owner or the owner's agent prior to the completion of the asbestos abatement in accordance with the notification requirements of this Part…All building/structure owners and asbestos abatement contractors on a demolition, renovation, remodeling, or repair project, which includes work covered by this part, shall inform all trades on the work site about PACM, ACM, asbestos material and suspect miscellaneous ACM…Bids may be advertised and contracts

awarded for demolition, remodeling, renovation, or repair work, but no work on the current intermediate portion of the project shall commence on the demolition, renovation, remodeling or repair work by any owner or agent prior to completion of all necessary asbestos abatement work for the current intermediate portion of the entire project, in conformance with all standards set forth in this Part." All work conducted should be in accordance with all legal requirements, including but not limited to U.S. Environmental Protection Agency (EPA) National Emissions Standards for Hazardous Air Pollutants (NESHAP) [40 CFR Part 61], New York State Industrial Code Rule 56 Asbestos Regulations (ICR 56) and Chapter 1 of Title 15 of the Rules of the City of New York Regulations, as applicable. Advance notification of the asbestos project to the USEPA, NYSDOL, and NYCDEP may be required.

CONCEALED ACM

In addition to the ACMs identified at the site, there is a possibility that concealed suspect ACM may exist at the building/structure. As such, if any concealed suspect ACM is encountered during future construction related activities, the work should immediately stop. Prior to resuming the work, the suspect ACM should either be 1) Sampled by an appropriately-certified asbestos professional and submitted to an Approved NYSDOH ELAP laboratory for asbestos analysis or 2) Presumed to be ACM (PACM) and removed by a licensed asbestos abatement contractor for disposal in accordance with all applicable regulations.

## 4.0 Lead-based Paint (LBP)

### 4.1 Applicable Standards/Guidelines for LBP

The U.S Department of Housing and Urban Development (HUD) defines the action level for lead-based paint as a lead content equal to or greater than 1.0 milligrams of lead per square centimeter of painted surface (≥1.0 mg Pb/cm$^2$) when measured with an XRF analyzer or 0.5 percent by weight when chemically tested. This definition is described in the HUD "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing, September 1990". The state of New York's definition of the action level for lead-based paint is consistent with the level established by HUD.

Please note that although the HUD defines lead-based paint as paint having lead concentrations equal or greater than 1.0 mg/cm2, the Occupational Safety and Health Administration (OSHA) considers any concentration of lead in paint to be lead-containing paint. Regardless of the lead concentrations in paint, the contractor shall comply with 29 CFR 1926.62, OSHA regulations, and take precautionary measures for dust control and limit employee exposure to lead dust during the renovations.

Painted surfaces that would be impacted by planned activities such as drilling, cutting, scrapping, etc. and create dust should be properly addressed by following safe work practices, good housekeeping procedures and/or following proper abatement procedures. Grinding and sanding of paint without HEPA filter exhaust, open flame gas fired torch, unconfined abrasive blasting, and chemical strippers containing methylene chloride or other human carcinogenic chemicals are not recommended.

The Federal Resource Conservation and Recovery Act (RCRA) regulation governs the handling, transportation, and disposal of hazardous materials. Every demolition/renovation debris generator has the responsibility to determine whether the debris exhibits one or more of the characteristic wastes listed in subpart C of 40 CFR Part 261. In the case of demolition debris, lead in LBP is a characteristic waste, and therefore, it is the responsibility of the renovation/demolition debris generator to characterize the waste

prior to its disposal and, if found to be hazardous waste as defined by Federal Statutes, to be properly handled and disposed.

Metal objects painted with LBP are exempt from disposal regulations applicable to lead, provided they are properly recycled. All metal objects that are painted with LBP should be sent to a certified recycling facility.

This report is not Lead-based Paint abatement specification and should not be used for specifying removal methods or techniques.

### 4.2 XRF Information

Viken Pb200e X-Ray Fluorescence (XRF) Analyzer(s) were used to survey the building/structure or portion thereof identified to be demolished, renovated, remodeled or repaired for the presence of LBP. The Viken Pb200e XRF Analyzer(s) are using a sealed source of Co-57 with 6mCi sources, meeting HUD requirements for the analysis of paint films. During the analysis, the intensity of the x-rays is converted by the instrument's internal software into an estimate of the concentration of lead in the substance being analyzed. The results are interpreted as concentrations of lead in milligrams per square centimeter. This device is a field-screening tool, used to collect multiple readings in a short period of time. The method of measurement is based on spectrometric analysis of lead x-ray fluorescence within a controlled depth of interrogation. The reading is an estimate of lead content in all layers of paint. The results are displayed in milligrams per square centimeter (mg/cm2). The device(s) used for this inspection were the Viken Pb200e X-Ray Fluorescence (XRF) Analyzer(s) Serial Number 2104, Source date 4/1/23, Serial number 2231, Source date 5/15/22, Serial number 2595, Source date 2/15/23 and/or Serial number 2901, Source date 2/15/23.

## 5.0 PolyChlorinated Biphenyls (PCB)

### 5.1 Background and Protocol for PCBs

PolyChlorinated Biphenyls (PCB) are a group of manmade chemicals. PCBs were widely used in building materials and electrical products in the past. The U.S. Environmental Protection Agency banned the manufacturing and certain uses of PCBs in 1978, but buildings constructed or renovated between 1950 and 1978 may still have building materials and electrical products that contain PCBs. Examples of products that may contain PCBs include caulk, paint, glues, plastics, fluorescent lighting ballasts, transformers and capacitors.

PCBs are currently prohibited from being used in caulk and other commodities (U.S. EPA, 40 CFR 761). However, prior to 1977, PCBs were present in some caulking materials used in the construction of schools and other buildings. Studies have shown that concentrations of PCB can exceed 1% (10,000 ppm) by weight in some caulk materials. An investigation of 24 buildings in the Greater Boston Area revealed that one-third of the buildings tested (8 of 24) contained caulking materials with polychlorinated biphenyl (PCB) content exceeding 50 ppm by weight with an average concentration of 15,600 ppm or 1.5% (Herrick et al., 2004). These buildings included schools and other public buildings.

The U.S. EPA regulates the disposal of caulk, as well as soil and other materials contaminated with PCBs from caulk, if the concentration of PCBs exceeds 50 ppm. Such materials must be disposed at an appropriate approved or permitted facility.

U.S. EPA regulation 40 CFR 761 defines "PCB remediation waste" to include contaminated soil, and specifies a clean-up level of <1ppm without further conditions for unrestricted use in "high occupancy areas" (i.e., areas where individuals may be present for 335 hours or more per year). PCB caulk is defined as a PCB bulk product waste, and its disposal is subject to U.S. EPA regulations under the Toxic Substances Control Act (40 CFR761.62).

This protocol has been developed in consultation with the New York State Department of Health, Division of Environmental Health Assessment, Bureau of Toxic Substance Assessment to address concerns about properly managing caulk containing PCBs that will be disturbed during building renovation and maintenance.

CAULK SAMPLE COLLECTION

Buildings constructed or renovated between 1950 and 1977 have a potential to contain PCBs in existing caulk. Representative samples of caulking materials from these buildings prior to renovation or demolition work should be tested to determine whether the caulk is contaminated with PCBs. Professional judgement should be used to design the sampling plan for characterizing caulk throughout the building. The consultant should pay particular attention to construction and maintenance records and to the appearance of caulking materials (likenesses and differences). Samples should be taken from window frames or expansion joints that have not been repaired or replaced since 1977. Depending on specific information provided in the workplan developed by the project manager, such as window placement, compositing of some caulk samples might be appropriate. Caulk from different time periods or that have a different appearance should not be composited together.

It is important to note that caulk used during the time period of interest may also contain asbestos or lead. Therefore, the work plan should include testing, handling and disposal requirements appropriate for such regulated materials.

SOIL SAMPLE COLLECTION

Buildings constructed or renovated between 1950 and 1977, which have undergone further renovation after 1977, may have residual PCB contamination in adjacent soils. An adequate representation of surface soils should be tested to assess the potential for residual PCB contamination.

When designing a representative soil sampling plan, the likelihood of soil contamination from deteriorated or deteriorating caulk should be considered. Caulk that has in the past dried out and fallen to the ground is the most important source of soil contamination. Thus, sampling should include soil beneath windows where caulk has obviously deteriorated or been replaced because of previous deterioration. Areas subject to the stress of sun and prevailing weather (typically the southern and western side of each structure) should be included for sampling. These samples would provide a conservative evaluation of soil conditions due to an increased potential for material failure, possibly resulting in contamination of soil. Also, if earlier renovation or demolition work may have stockpiled potentially contaminated caulk in other school areas, the school should consider having soils in those areas tested as well.

Soil sampling should focus on areas of the building where ”banks” or “gangs” of windows exist/were replaced and areas of the structure where large expansion joints are located. This would provide a conservative evaluation of potential soil contamination and permit efficient sampling.

Any obvious pieces of caulk encountered during the collection of soil samples should be removed from the soil, categorized (with respect to location and depth) and treated as a separate potential sample.

Depth – At each soil sample location, soil should be collected in depth intervals of 0-2 inches, 2-6 inches and 6-12 inches. The surface soil sample (0-2 inches) should be collected from below the vegetative surface layer, if present.

Distance from Structure – Samples should be collected within 1 foot of the building and 5 feet from the building.

Samples should be collected in a manner that prevents cross-contamination. Augers or driven core samplers should be avoided, as any caulk caught on the edge of this type of tool could be driven to lower intervals. Using a designated trowel for each sample location and each interval of depth is encouraged. If the sampling tool is field cleaned between samples, do so in a manner that does not add solvent contamination to the environment.

NOTE
Sampling was performed by **Adelaide** in compliance with protocols outlined by New York State Education Department (NYSED) and USEPA 40 CFR 761, as described above. Only one sample per homogeneous area was required for analysis of suspect PCB-containing materials. Bulk sample(s) were properly packaged and forwarded, with associated Chain of Custody (COC), to York Analytical Laboratories, Inc., for analysis using method SW846-3550B/8082. The analysis will determine if the suspect material will be classified as PCB-containing at or above 50 ppm or mg/kg as per the EPA regulations. Copies of the analytical results are contained within attached appendices for review.

## 6.0 General Discussion

All construction personnel as well as individuals who have access to locations where asbestos-containing materials (ACM), lead-based paints (LBP) and/or polychlorinated biphenyls (PCB) exists should be informed of its presence and the proper work practices in these areas. Conspicuous labeling of all ACM is suggested to ensure personnel is adequately informed. Personnel should be informed not to rest, lean or store material or equipment on or near these surfaces and not to cut, saw, drill, sand or disturb ACM. All removal, disturbance, and repair of ACM should be performed in compliance with Title 12 NYCRR Part 56 by persons properly trained to handle ACM. Facility custodial and maintenance personnel should receive training commensurate with their work activities; as defined in 29 CFR 1910.1001.

## 7.0 Disclaimers

**Adelaide** certifies that the information contained within this report is based solely upon site observations and the results of laboratory analysis for samples collected during this survey/assessment. These observations and results are time dependent, subject to changing site conditions and revisions to Federal, State and Local regulations. **Adelaide** warrants that these findings have been promulgated after being prepared in general accordance with generally accepted practices in the abatement industries. **Adelaide** also recognizes that inspection laboratory data is not usually sufficient to make all abatement and management decisions. No other warranties are expressed or implied.

The materials sampled, as part of this survey, were limited to building materials potential affected by the provided scope of work only. All building materials outside the scope of work that have the potential to be disturbed, impacted, or if the scope of work is to change, are to be presumed asbestos-containing materials (PACM). Identified PACM **must** either be sampled by a licensed NYS Asbestos Inspector and/or abated/removed and disposed of by a licensed NYS Asbestos Abatement Contractor.

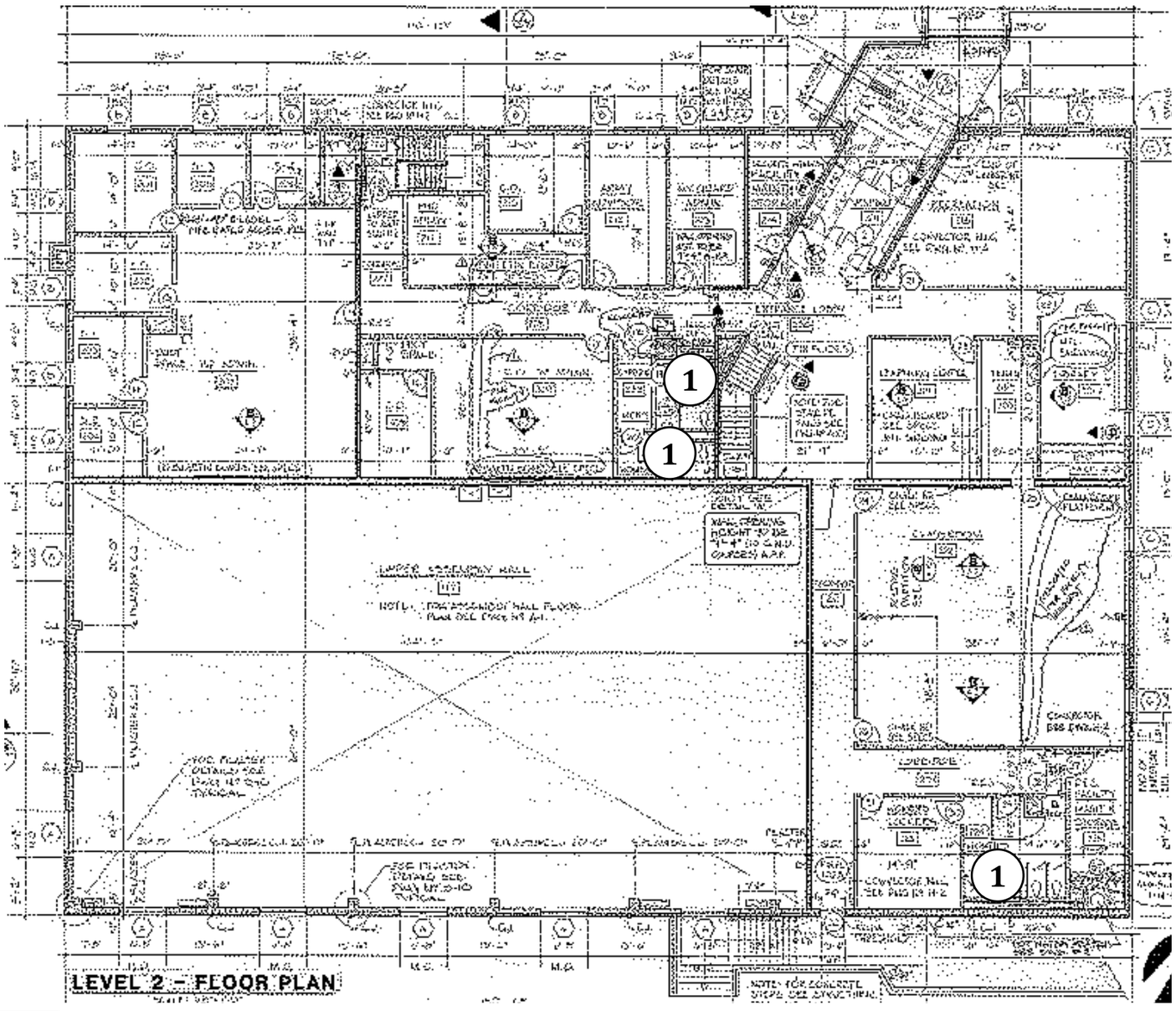
Due to the potential for concealed Asbestos-containing Materials (ACM) and/or other regulated materials, this report should not be construed to represent all ACM and/or regulated materials within the site(s). All quantities of ACM and/or other regulated materials identified, and all dimensions listed within this report are approximate and should be verified On-site.

This report is generated for the exclusive use of the client and is not designed to serve as a specification for abatement. The owner is strongly encouraged to contract with a consultant having a current Asbestos Project Designer Certificate as issued by New York State Department of Labor for the preparation of contract specifications, work plans, and/or drawings prior to requesting bids for the abatement or removal of the materials identified in this report.

NYSDOH issued an Interim Guidance Letter, on July 9, 2013, which outlined the approved testing alternative for materials containing vermiculite. Specifically, "...Where TSI, surfacing materials, or other PACM or miscellaneous suspect ACM contain greater than 10% vermiculite, Item 198.6 may be used to evaluate the asbestos content of the material; provided, however, that any test results using this method must be reported with the following conspicuous disclaimer: *"This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite."* On July 22, 2014, NYSDOH issued a Regulatory Guidance Letter outlining the new approved analytical methods for testing sprayed-on fireproofing (SOFP) that contains vermiculite. NYSDOH authorized the use of ***two*** analytical methods to evaluate the asbestos content of SOFP that contains vermiculite. As per NYSDOH Guidelines, *"After October 31, 2014, one of the new methods **must** be used to test SOF-V, regardless of the percent of vermiculite."* On May 6, 2016, NYSDOH issued a Regulatory Guidance Letter outlining the new protocol for analytical procedure for surfacing materials (ie. plaster, stucco, etc.) that contain vermiculite. As per NYSDOH Guidelines, "*The original July 2013 and July 2014 letters addressed SOF-V only. Both NYS DOH's Item 198.8 and RJ Lee Group Method 055 shall now be applied to test for vermiculite in other Surfacing Material (SM) as defined in 12 NYCRR Part 56 (NYS Industrial Code Rule 56).*"

# APPENDIX A

# ACM LOCATION MAP(S)




| ACM LEGEND: (see report for details) | |
|---|---|
| 1 | Assumed Mirror Mastic |
| **PACM** | Electrical Wire and Panels Throughout |

Second Floor Plans - Asbestos Locations

**Drawing Not to Scale**

Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
Fax: (845) 278-7750

**CLIENT:**
**Greg Springer**
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**(Client) Project #**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 6/13/2023

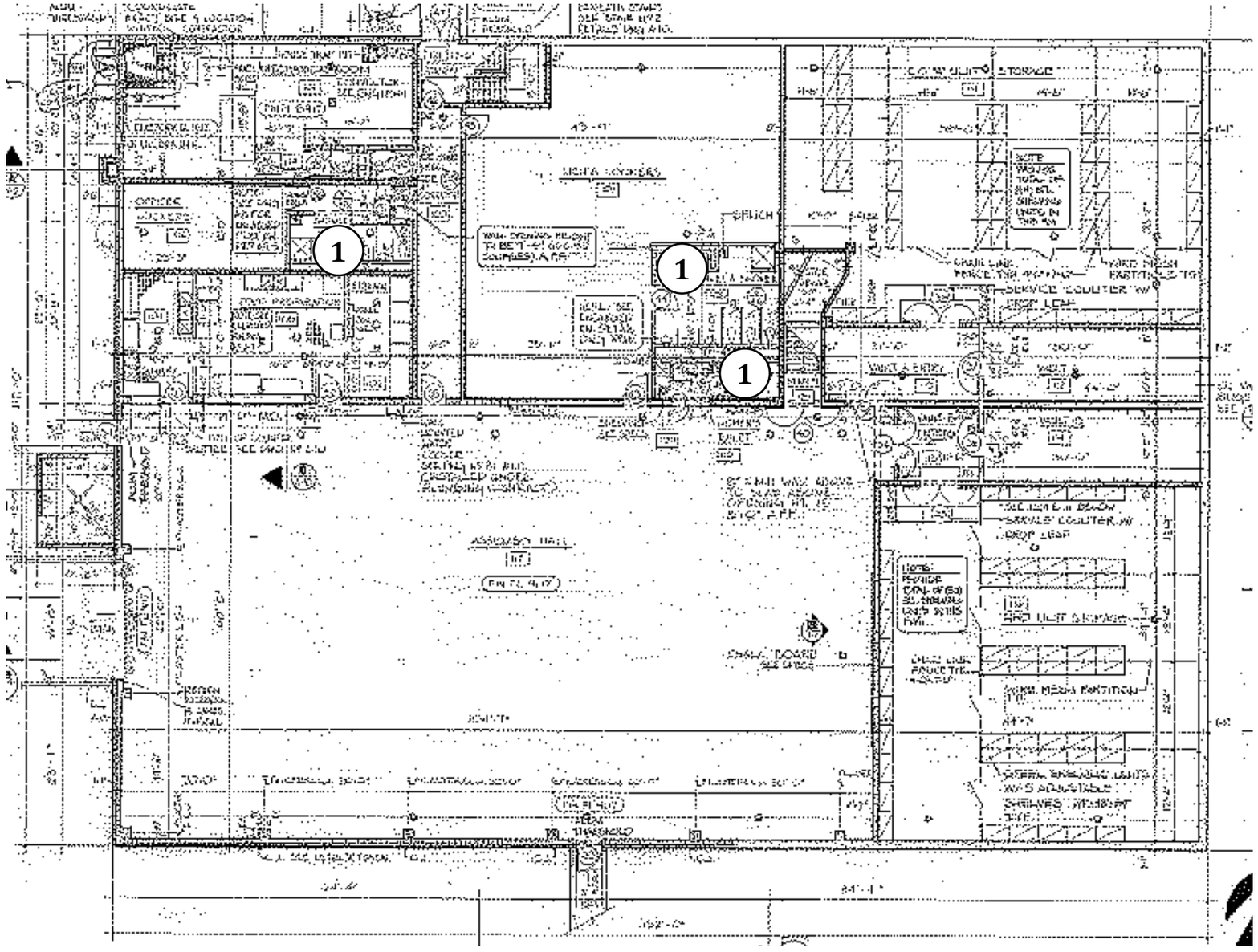
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**ISSUED FOR:**
Asbestos, Lead & PCB Survey

**ADELAIDE PROJECT NO.:**
BA:23168.00-IN

**DRAWING PREPARED BY:**
JPF

**ASB-01**




| ACM LEGEND: (see report for details) | |
|---|---|
| 1 | Assumed Mirror Mastic |
| PACM | Electrical Wire and Panels Throughout |

First Floor Plans - Asbestos Locations

**Drawing Not to Scale**

Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
Fax: (845) 278-7750

**CLIENT:**
**Greg Springer**
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**(Client) Project #**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 6/13/2023

**DRAWING VERSION:** No. 1

**ISSUED FOR:**
Asbestos, Lead & PCB Survey

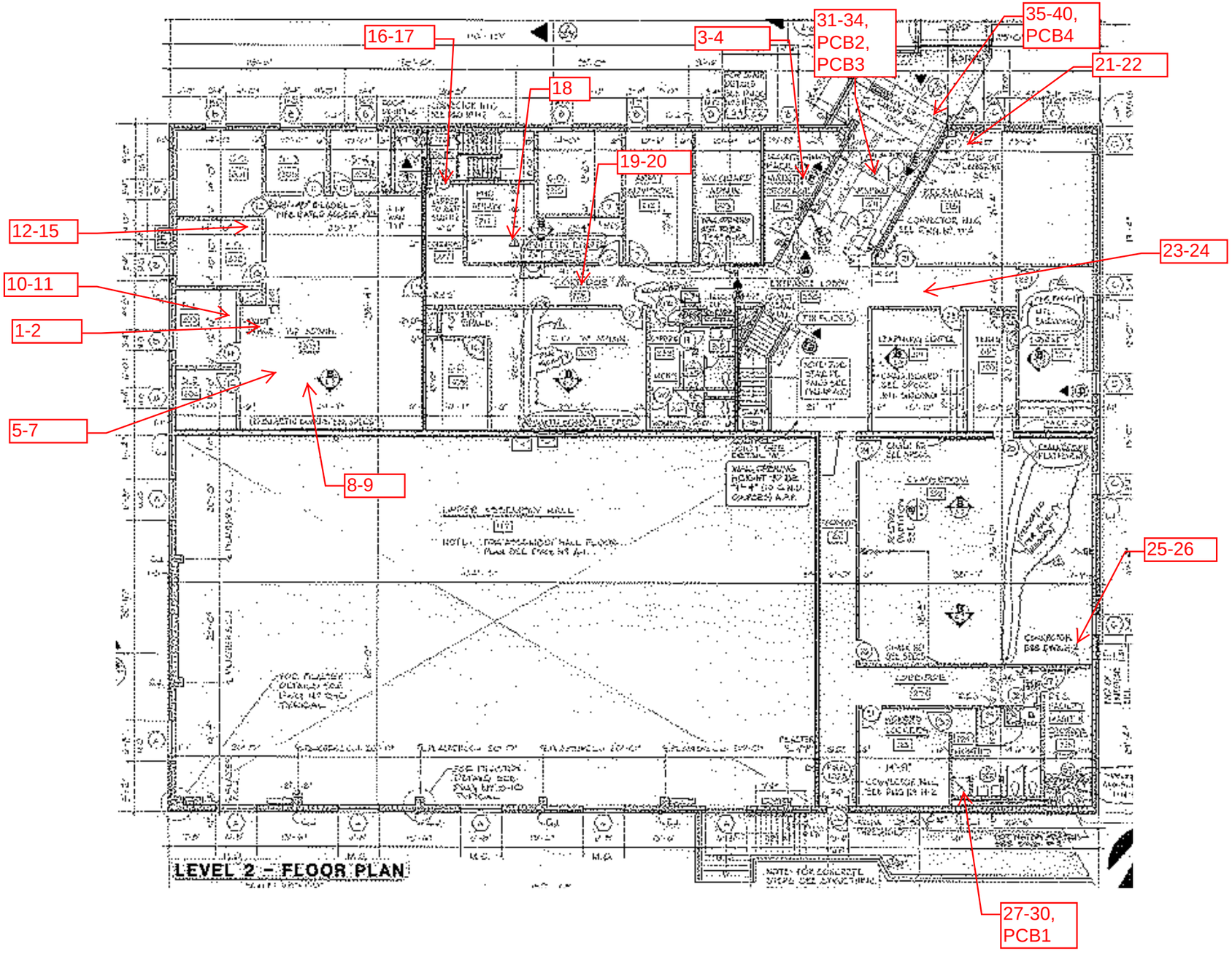
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BA:23168.00-IN

**DRAWING PREPARED BY:**
JPF

**ASB-02**

# APPENDIX B

# SAMPLE LOCATION MAP(S)




Second Floor Plans - Sample Locations

**Drawing Not to Scale**

Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
Fax: (845) 278-7750

**CLIENT:**
**Greg Springer**
Bergmann: Architects, Engineers, Planners
18 Corporate Woods Blvd., Suite 400
Albany, New York 12211

**(Client) Project #**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 6/13/2023

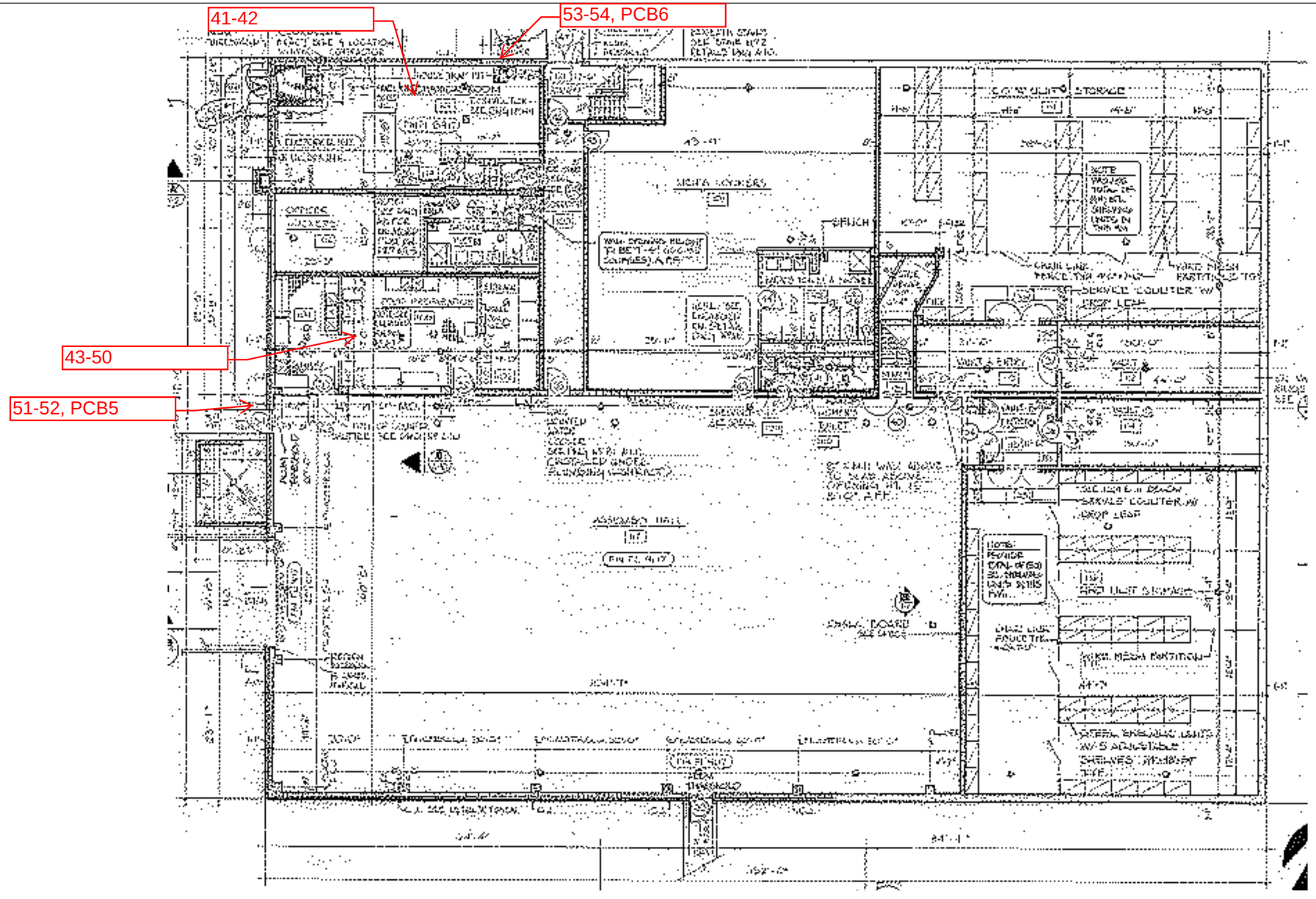
**DRAWING VERSION:** No. 1

**ISSUED FOR:**
Asbestos, Lead & PCB Survey

**ADELAIDE PROJECT NO.:**
BA:23168.00-IN

**DRAWING PREPARED BY:**
JPF

**SL-01**




First Floor Plans - Sample Locations

**Drawing Not to Scale**

Adelaide ENVIRONMENTAL HEALTH
1511 Route 22
Brewster, NY 10509
Phone: (845) 278-7710
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**CLIENT:**
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Albany, New York 12211

**(Client) Project #**

**SURVEY LOCATION:**
**Yonkers Armory**
2 Quincy Place
Yonkers, New York 10701

**DATE:** 6/13/2023

**DRAWING VERSION:** No. 1

**ISSUED FOR:**
Asbestos, Lead & PCB Survey

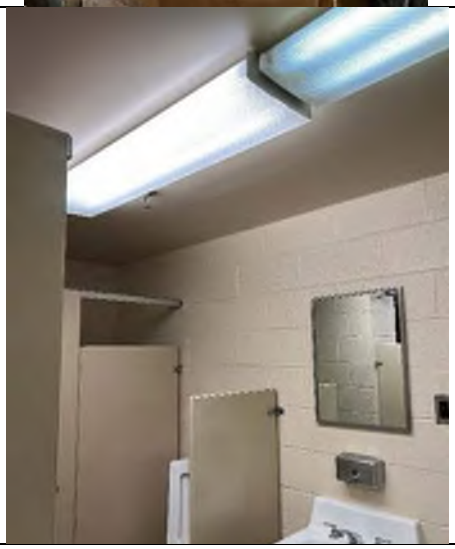
**ADELAIDE PROJECT NO.:**
BA:23168.00-IN

**DRAWING PREPARED BY:**
JPF

**SL-02**

# APPENDIX C

# ACM PHOTO(S)

| | |
|---|---|
| PACM<br>Electrical Wire Insulation and Panels |  |
| PACM<br>Electrical Wire Insulation and Panels |  |
| PACM<br>Mirror Mastic |  |

# APPENDIX D

# ASBESTOS ANALYTICAL RESULTS

# Table I
## Summary of Bulk Asbestos Analysis Results

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 01 | 1 | 1 | 0.226 | 17.4 | 81.7 | 0.9 | NAD | NAD |
| Location: 2nd Floor - Room 207 - 12 x 12 F.T. - Brown / Red Mottled | | | | | | | | |
| 02 | 2 | 1 | 0.195 | 16.3 | 82.6 | 1.0 | NAD | NAD |
| Location: 2nd Floor - Room 207 - 12 x 12 F.T. - Brown / Red Mottled | | | | | | | | |
| 03 | 3 | 2 | 0.142 | 79.8 | 15.9 | 4.3 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 12 x 12 F.T. - Black Mastic | | | | | | | | |
| 04 | 4 | 2 | 0.157 | 80.5 | 13.2 | 6.3 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 12 x 12 F.T. - Black Mastic | | | | | | | | |
| 05 | 5 | 3 | 0.188 | 24.9 | 12.0 | 63.1 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 2 x 4 C.T. - Large + Small Holes | | | | | | | | |
| 06 | 6 | 3 | 0.132 | 26.0 | 22.1 | 51.9 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 2 x 4 C.T. - Large + Small Holes | | | | | | | | |
| 07 | 7 | 4 | 0.227 | 55.4 | 18.6 | 26.0 | NAD | NAD |
| Location: 2nd Floor - Room 214 - Debris On Top Of C.T. | | | | | | | | |
| 08 | 8 | 5 | 0.137 | 27.2 | 25.5 | 47.3 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 2 x 4 C.T. - Squiggles + Holes | | | | | | | | |
| 09 | 9 | 5 | 0.159 | 28.1 | 21.5 | 50.4 | NAD | NAD |
| Location: 2nd Floor - Room 214 - 2 x 4 C.T. - Squiggles + Holes | | | | | | | | |
| 10 | 10 | 6 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Room 214 - CMU Mortar | | | | | | | | |
| 11 | 11 | 6 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Room 214 - CMU Mortar | | | | | | | | |
| 12L1 | 12 | 7 | 0.222 | 62.5 | 37.0 | 0.5 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Cove Base - 4" Black | | | | | | | | |
| 12L2 | 12 | 7 | 0.222 | 45.9 | 49.1 | 5.0 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Cove Base - 4" Black Mastic | | | | | | | | |
| 13L1 | 13 | 7 | 0.212 | 62.4 | 37.1 | 0.5 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Cove Base - 4" Black | | | | | | | | |
| 13L2 | 13 | 7 | 0.282 | 45.7 | 46.4 | 7.9 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Cove Base - 4" Black Mastic | | | | | | | | |
| 14 | 14 | 8 | 0.234 | 57.9 | 4.8 | 37.4 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Yellow Carpet Mastic | | | | | | | | |

See Reporting notes on last page

# Table I
## Summary of Bulk Asbestos Analysis Results

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 15 | 15 | 8 | 0.161 | 57.4 | 24.3 | 18.3 | NAD | NAD |
| Location: 2nd Floor - Room 202 - Yellow Carpet Mastic | | | | | | | | |
| 16 | 16 | 9 | 0.265 | 17.6 | 79.9 | 2.5 | NAD | NAD |
| Location: 2nd Floor - Hallway - 12 x 12 F.T. - Green Mottled | | | | | | | | |
| 17 | 17 | 9 | 0.280 | 16.9 | 82.3 | 0.8 | NAD | NAD |
| Location: 2nd Floor - Hallway - 12 x 12 F.T. - Green Mottled | | | | | | | | |
| 18 | 18 | 10 | 0.423 | 26.8 | 11.1 | 62.1 | NAD | NAD |
| Location: 2nd Floor - Room 211 - Debris Above C.T. | | | | | | | | |
| 19 | 19 | 11 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Hallway - Drywall Ceiling | | | | | | | | |
| 20 | 20 | 11 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Hallway - Drywall Ceiling | | | | | | | | |
| 21 | 21 | 12 | 0.239 | 20.8 | 61.7 | 17.5 | NAD | NAD |
| Location: 2nd Floor - Room 218 - 12 x 12 F.T. - Brown + White Mottled | | | | | | | | |
| 22 | 22 | 12 | 0.260 | 19.8 | 59.2 | 21.0 | NAD | NAD |
| Location: 2nd Floor - Room 218 - 12 x 12 F.T. - Brown + White Mottled | | | | | | | | |
| 23 | 23 | 13 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Hallway - Joint Compound | | | | | | | | |
| 24 | 24 | 13 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Hallway - Joint Compound | | | | | | | | |
| 25 | 25 | 14 | 0.208 | 19.6 | 72.6 | 7.8 | NAD | NAD |
| Location: 2nd Floor - Room 222 - 12 x 12 F.T. - White W/ Gray Specks | | | | | | | | |
| 26 | 26 | 14 | 0.244 | 20.7 | 60.9 | 18.5 | NAD | NAD |
| Location: 2nd Floor - Room 222 - 12 x 12 F.T. - White W/ Gray Specks | | | | | | | | |
| 27 | 27 | 15 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Rm. 223 - Womens Locker - Terrazzo Shower Base | | | | | | | | |
| 28 | 28 | 15 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Rm. 223 - Womens Locker - Terrazzo Shower Base | | | | | | | | |
| 29 | 29 | 16 | 0.141 | 32.0 | 65.3 | 2.7 | NAD | NAD |
| Location: 2nd Floor - Rm. 223 - Womens Locker - Sealant At Shower | | | | | | | | |
| 30 | 30 | 16 | 0.140 | 30.7 | 67.0 | 2.4 | NAD | NAD |
| Location: 2nd Floor - Rm. 223 - Womens Locker - Sealant At Shower | | | | | | | | |

See Reporting notes on last page

# Table I
## Summary of Bulk Asbestos Analysis Results

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 31 | 31 | 17 | 0.217 | 29.3 | 67.7 | 3.0 | NAD | NAD |
| Location: 2nd Floor - Entrance Doors - Glazing Compound | | | | | | | | |
| 32 | 32 | 17 | 0.237 | 29.2 | 67.2 | 3.6 | NAD | NAD |
| Location: 2nd Floor - Entrance Doors - Glazing Compound | | | | | | | | |
| 33 | 33 | 18 | 0.187 | 44.1 | 53.5 | 2.4 | NAD | NAD |
| Location: 2nd Floor - Entrance Doors - Exterior Sealant | | | | | | | | |
| 34 | 34 | 18 | 0.157 | 44.9 | 52.6 | 2.6 | NAD | NAD |
| Location: 2nd Floor - Entrance Doors - Exterior Sealant | | | | | | | | |
| 35 | 35 | 19 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Concrete | | | | | | | | |
| 36 | 36 | 19 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Concrete | | | | | | | | |
| 37 | 37 | 20 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Brick Mortar | | | | | | | | |
| 38 | 38 | 20 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 2nd Floor - Brick Mortar | | | | | | | | |
| 39 | 39 | 21 | 0.171 | 65.1 | 26.9 | 8.0 | NAD | NAD |
| Location: 2nd Floor - Exterior Vertical Sealant | | | | | | | | |
| 40 | 40 | 21 | 0.184 | 65.2 | 25.9 | 8.9 | NAD | NAD |
| Location: 2nd Floor - Exterior Vertical Sealant | | | | | | | | |
| 41 | 41 | 22 | 0.124 | 72.9 | 11.4 | 15.7 | NAD | NAD |
| Location: 1st Floor - Boiler Room - Pin Mastic On Duct | | | | | | | | |
| 42 | 42 | 22 | 0.182 | 73.9 | 8.4 | 17.7 | NAD | NAD |
| Location: 1st Floor - Boiler Room - Pin Mastic On Duct | | | | | | | | |
| 43 | 43 | 23 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Wall Tile - Grout | | | | | | | | |
| 44 | 44 | 23 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Wall Tile - Grout | | | | | | | | |
| 45 | 45 | 24 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Wall Tile - Mudset | | | | | | | | |
| 46 | 46 | 24 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Wall Tile - Mudset | | | | | | | | |

See Reporting notes on last page

# Table I
## Summary of Bulk Asbestos Analysis Results

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| AmeriSci Sample # | Client Sample# | HG Area | Sample Weight (gram) | Heat Sensitive Organic % | Acid Soluble Inorganic % | Insoluble Non-Asbestos Inorganic % | ** Asbestos % by PLM/DS | ** Asbestos % by TEM |
|---|---|---|---|---|---|---|---|---|
| 47 | 47 | 25 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Floor Tile - Grout | | | | | | | | |
| 48 | 48 | 25 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Floor Tile - Grout | | | | | | | | |
| 49 | 49 | 26 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Floor Tile - Mudset | | | | | | | | |
| 50 | 50 | 26 | ---- | ---- | ---- | ---- | NAD | NA |
| Location: 1st Floor - Kitchen - Floor Tile - Mudset | | | | | | | | |
| 51 | 51 | 27 | 0.187 | 62.0 | 27.5 | 10.6 | NAD | NAD |
| Location: 1st Floor - Exterior - Door Caulk | | | | | | | | |
| 52 | 52 | 27 | 0.206 | 64.6 | 22.3 | 13.1 | NAD | NAD |
| Location: 1st Floor - Exterior - Door Caulk | | | | | | | | |
| 53 | 53 | 28 | 0.170 | 60.7 | 11.7 | 27.6 | NAD | NAD |
| Location: 1st Floor - Exterior - Louver Caulk | | | | | | | | |
| 54 | 54 | 28 | 0.103 | 59.9 | 5.8 | 34.2 | NAD | NAD |
| Location: 1st Floor - Exterior - Louver Caulk | | | | | | | | |

Analyzed by: Gabriella Morozov 

Date: 6/8/2023

Reviewed by: Gabriella Morozov 

**Quantitative Analysis (Semi/Full); Bulk Asbestos Analysis - PLM by Appd E to Subpt E, 40 CFR 763 or NYSDOH ELAP 198.1 for New York friable samples or NYSDOH ELAP 198.6 for New York NOB samples; TEM (Semi/Full) by EPA 600/R-93/116 (or NYSDOH ELAP 198.4; for New York samples). Analysis using Hitachi, Model H7000-Noran 7 System, Microscope, Serial #: 747-05-06. NAD = no asbestos detected during a quantitative analysis; NA = not analyzed; Trace = <1%; (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only; Qualitative Analysis: Asbestos analysis results of "Present" or "NVA = No Visible Asbestos" represents results for Qualitative PLM or TEM Analysis only (no accreditation coverage available from any regulatory agency for qualitative analyses): NVLAP (PLM) 200546-0, NYSDOH ELAP Lab 11480, NJ Lab ID #NY031.

Warning Note: PLM limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris for which PLM evaluation is recommended (i.e. soils and other heterogenous materials).

**AmeriSci New York**
117 EAST 30TH ST.
NEW YORK, NY 10016
TEL: (212) 679-8600 • FAX: (212) 679-3114

# PLM Bulk Asbestos Report

Adelaide Environmental Health
Attn: John Soter
1511 Rte. 22, Suite C24

Brewster, NY 10509

**Date Received** 06/07/23
**Date Examined** 06/08/23
**ELAP #** 11480

**AmeriSci Job #** 223061619
**P.O. #**
**Page** 1 **of** 10

**RE:** OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 1 | 223061619-01 | ***No*** | NAD |
| 1 | **Location:** 2nd Floor - Room 207 - 12 x 12 F.T. - Brown / Red Mottled | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Brown/Red, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.9% | | | |
| 2 | 223061619-02 | ***No*** | NAD |
| 1 | **Location:** 2nd Floor - Room 207 - 12 x 12 F.T. - Brown / Red Mottled | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Brown/Red, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 1% | | | |
| 3 | 223061619-03 | ***No*** | NAD |
| 2 | **Location:** 2nd Floor - Room 214 - 12 x 12 F.T. - Black Mastic | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 4.3% | | | |
| 4 | 223061619-04 | ***No*** | NAD |
| 2 | **Location:** 2nd Floor - Room 214 - 12 x 12 F.T. - Black Mastic | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 6.3% | | | |
| 5 | 223061619-05 | ***No*** | NAD |
| 3 | **Location:** 2nd Floor - Room 214 - 2 x 4 C.T. - Large + Small Holes | | (by NYS ELAP 198.6) by Kensen Caro on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 63.1% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 6<br>3 | 223061619-06<br>**Location:** 2nd Floor - Room 214 - 2 x 4 C.T. - Large + Small Holes | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 51.9% | | | |
| 7<br>4 | 223061619-07<br>**Location:** 2nd Floor - Room 214 - Debris On Top Of C.T. | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Black, Heterogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 26% | | | |
| 8<br>5 | 223061619-08<br>**Location:** 2nd Floor - Room 214 - 2 x 4 C.T. - Squiggles + Holes | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 47.3% | | | |
| 9<br>5 | 223061619-09<br>**Location:** 2nd Floor - Room 214 - 2 x 4 C.T. - Squiggles + Holes | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 50.4% | | | |
| 10<br>6 | 223061619-10<br>**Location:** 2nd Floor - Room 214 - CMU Mortar | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 11<br>6 | 223061619-11<br>**Location:** 2nd Floor - Room 214 - CMU Mortar | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 12<br>7 | 223061619-12L1<br>**Location:** 2nd Floor - Room 202 - Cove Base - 4" Black | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.5% | | | |
| 12<br>7 | 223061619-12L2<br>**Location:** 2nd Floor - Room 202 - Cove Base - 4" Black Mastic | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Cream, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 5% | | | |
| 13<br>7 | 223061619-13L1<br>**Location:** 2nd Floor - Room 202 - Cove Base - 4" Black | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Black, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.5% | | | |
| 13<br>7 | 223061619-13L2<br>**Location:** 2nd Floor - Room 202 - Cove Base - 4" Black Mastic | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Cream, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 7.9% | | | |
| 14<br>8 | 223061619-14<br>**Location:** 2nd Floor - Room 202 - Yellow Carpet Mastic | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 37.4% | | | |
| 15<br>8 | 223061619-15<br>**Location:** 2nd Floor - Room 202 - Yellow Carpet Mastic | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Yellow, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 18.3% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 16<br>9 | 223061619-16<br>**Location:** 2nd Floor - Hallway - 12 x 12 F.T. - Green Mottled | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Green, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.5% | | | |
| 17<br>9 | 223061619-17<br>**Location:** 2nd Floor - Hallway - 12 x 12 F.T. - Green Mottled | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Green, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 0.8% | | | |
| 18<br>10 | 223061619-18<br>**Location:** 2nd Floor - Room 211 - Debris Above C.T. | ***No*** | NAD [1]<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Black, Heterogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 62.1% | | | |
| 19<br>11 | 223061619-19<br>**Location:** 2nd Floor - Hallway - Drywall Ceiling | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray/Brown, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 15%, Non-fibrous 85% | | | |
| 20<br>11 | 223061619-20<br>**Location:** 2nd Floor - Hallway - Drywall Ceiling | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray/Brown, Heterogeneous, Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Cellulose 15%, Non-fibrous 85% | | | |
| 21<br>12 | 223061619-21<br>**Location:** 2nd Floor - Room 218 - 12 x 12 F.T. - Brown + White Mottled | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Brown, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 17.5% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 22<br>12 | 223061619-22<br>**Location:** 2nd Floor - Room 218 - 12 x 12 F.T. - Brown + White Mottled | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Brown, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 21% | | | |
| 23<br>13 | 223061619-23<br>**Location:** 2nd Floor - Hallway - Joint Compound | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 24<br>13 | 223061619-24<br>**Location:** 2nd Floor - Hallway - Joint Compound | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 25<br>14 | 223061619-25<br>**Location:** 2nd Floor - Room 222 - 12 x 12 F.T. - White W/ Gray Specks | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 7.8% | | | |
| 26<br>14 | 223061619-26<br>**Location:** 2nd Floor - Room 222 - 12 x 12 F.T. - White W/ Gray Specks | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 18.5% | | | |
| 27<br>15 | 223061619-27<br>**Location:** 2nd Floor - Rm. 223 - Womens Locker - Terrazzo Shower Base | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White/Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 28<br>15 | 223061619-28<br>**Location:** 2nd Floor - Rm. 223 - Womens Locker - Terrazzo Shower Base | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White/Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 29<br>16 | 223061619-29<br>**Location:** 2nd Floor - Rm. 223 - Womens Locker - Sealant At Shower | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.7% | | | |
| 30<br>16 | 223061619-30<br>**Location:** 2nd Floor - Rm. 223 - Womens Locker - Sealant At Shower | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.4% | | | |
| 31<br>17 | 223061619-31<br>**Location:** 2nd Floor - Entrance Doors - Glazing Compound | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 3% | | | |
| 32<br>17 | 223061619-32<br>**Location:** 2nd Floor - Entrance Doors - Glazing Compound | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 3.6% | | | |
| 33<br>18 | 223061619-33<br>**Location:** 2nd Floor - Entrance Doors - Exterior Sealant | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.4% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 34<br>18 | 223061619-34<br>**Location:** 2nd Floor - Entrance Doors - Exterior Sealant | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 2.6% | | | |
| 35<br>19 | 223061619-35<br>**Location:** 2nd Floor - Concrete | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 36<br>19 | 223061619-36<br>**Location:** 2nd Floor - Concrete | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 37<br>20 | 223061619-37<br>**Location:** 2nd Floor - Brick Mortar | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 38<br>20 | 223061619-38<br>**Location:** 2nd Floor - Brick Mortar | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 39<br>21 | 223061619-39<br>**Location:** 2nd Floor - Exterior Vertical Sealant | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 8% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 40<br>21 | 223061619-40<br>**Location:** 2nd Floor - Exterior Vertical Sealant | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 8.9% | | | |
| 41<br>22 | 223061619-41<br>**Location:** 1st Floor - Boiler Room - Pin Mastic On Duct | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Dark Brown, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 15.7% | | | |
| 42<br>22 | 223061619-42<br>**Location:** 1st Floor - Boiler Room - Pin Mastic On Duct | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Dark Brown, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 17.7% | | | |
| 43<br>23 | 223061619-43<br>**Location:** 1st Floor - Kitchen - Wall Tile - Grout | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 44<br>23 | 223061619-44<br>**Location:** 1st Floor - Kitchen - Wall Tile - Grout | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 45<br>24 | 223061619-45<br>**Location:** 1st Floor - Kitchen - Wall Tile - Mudset | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 46<br>24 | 223061619-46<br>**Location:** 1st Floor - Kitchen - Wall Tile - Mudset | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 47<br>25 | 223061619-47<br>**Location:** 1st Floor - Kitchen - Floor Tile - Grout | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 48<br>25 | 223061619-48<br>**Location:** 1st Floor - Kitchen - Floor Tile - Grout | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 49<br>26 | 223061619-49<br>**Location:** 1st Floor - Kitchen - Floor Tile - Mudset | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 50<br>26 | 223061619-50<br>**Location:** 1st Floor - Kitchen - Floor Tile - Mudset | ***No*** | NAD<br>(by NYS ELAP 198.1)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 100% | | | |
| 51<br>27 | 223061619-51<br>**Location:** 1st Floor - Exterior - Door Caulk | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 10.6% | | | |

See Reporting notes on last page

# PLM Bulk Asbestos Report

OGSX:23168.00-IN; Yonkers Armory; 2 Quincy Place, Yonkers, New York 10701

| Client No. / HGA | Lab No. | Asbestos Present | Total % Asbestos |
|---|---|---|---|
| 52<br>27 | 223061619-52<br>**Location:** 1st Floor - Exterior - Door Caulk | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** Gray, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 13.1% | | | |
| 53<br>28 | 223061619-53<br>**Location:** 1st Floor - Exterior - Louver Caulk | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 27.6% | | | |
| 54<br>28 | 223061619-54<br>**Location:** 1st Floor - Exterior - Louver Caulk | ***No*** | NAD<br>(by NYS ELAP 198.6)<br>by Kensen Caro<br>on 06/08/23 |
| **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material<br>**Asbestos Types:**<br>**Other Material:** Non-fibrous 34.2% | | | |

**Reporting Notes:**

(1) Analysis Results For Soil, Dust, Or Debris May Be Highly Variable Because Of The Heterogeneous Nature Of These Samples

Analyzed by: Kensen Caro
Date: 6/8/2023

Reviewed by: Gabriella Morozov

*NAD/NSD =no asbestos detected; NA =not analyzed; NA/PS=not analyzed/positive stop, (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; PLM Bulk Asbestos Analysis using Motic, Model BA310 Pol Scope, Microscope, Serial #: 1190000538, by Appd E to Subpt E, 40 CFR 763 quantified by either CVES or 400 pt ct as noted for each analysis (NVLAP 200546-0), ELAP PLM Method 198.1 for NY friable samples, which includes the identification and quantitation of vermiculite, or ELAP 198.6 for NOB samples, or EPA 400 pt ct by EPA 600-M4-82-020 (NY ELAP Lab 11480); Note:PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos-containing in NY State (also see EPA Advisory for floor tile, FR 59,146,38970,8/1/94) National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab.This PLM report relates ONLY to the items tested. RI Cert AAL-094, CT Cert PH-0186, Mass Cert AA000054, NJ Lab ID #NY031.

_____END OF REPORT_____

**Adelaide Environmental Health Associates, Inc**
1454 Rte. 22, Suite B202
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: Yonkers Armory | Date: 6/6/2023 | Inspector: Jason Fullum |
|---|---|---|
| 2 Quincy Place | Client Project # | |
| Yonkers, New York 10701 | Project #: OGSX:23168.00-IN | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable Non Friable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 1 | 1 | 2 | Room 207 - 12x12 F.T. - Brown Red Mottled | 980SF | NF | G |
| 2 | 1 | 2 | | | | |
| 3 | 2 | 2 | Room 214 - - Black Mastic | | | |
| 4 | 2 | 2 | | | | |
| 5 | 3 | 2 | - 2x4 C.T. - Large + Small Holes | | NF | |
| 6 | 3 | 2 | | | | |
| 7 | 4 | 2 | - Debris on Top of C.T. | | | SD |
| 8 | 5 | 2 | - 2x4 C.T. - Scissles + Holes | | | G |
| 9 | 5 | 2 | | | | |
| 10 | 6 | 2 | - CMU Mortar | | | |
| 11 | 6 | 2 | | | | |
| 12 | 7 | 2 | Room 202 - Coveblase - 4" Black + Mastic | | | |
| 13 | 7 | 2 | | | | |
| | | | | | | |

Special Instructions/ Turnaround Time: 223061619

**Stop at 1st Positive per Homogenous Area** ***24 HR TAT***
**Fax Results to 845-278-7750**
**E-Mail results to AdelaideLabResults@Adelaidellc.com and Jfullum@adelaidellc.com**

Relinquished by:
Received by: Alexandra Vargas 6-7-23 1030
Relinquished by:
Received by:

**Adelaide Environmental Health Associates, Inc**
1454 Rte. 22, Suite B202
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: Yonkers Armory | Date: 6/6/2023 | Inspector: Jason Fullum |
|---|---|---|
| 2 Quincy Place | Client Project # | |
| Yonkers, New York 10701 | Project #: OGSX:23168.00-IN | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable Non Friable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 14 | 8 | 2 | Room 202 - Yellow Carpet Mastic | | NF | G |
| 15 | 8 | 2 | ↓ ↓ | | ↓ | ↓ |
| 16 | 9 | 2 | Hallway - 12x12 F.T. - Green Mottled | | | |
| 17 | 9 | 2 | ↓ ↓ ↓ | | | |
| 18 | 10 | 2 | Room 211 - Debris above C.T. | | F | SD |
| 19 | 10 | 2 | Hallway - Drywall Ceiling | | F | G |
| 20 | 11 | 2 | ↓ ↓ | | F | |
| 21 | 12 | 2 | Room 218 - 12x12 F.T. - Brown + White Mottled | | NF | |
| 22 | 12 | 2 | ↓ ↓ ↓ | | ↓ | |
| 23 | 13 | 2 | Hallway - Joint Compound | | F | |
| 24 | 13 | 2 | ↓ ↓ | | F | |
| 25 | 14 | 2 | Room 222 - 12x12 F.T. - White w/ Gray Specks | | NF | |
| 26 | 14 | 2 | ↓ ↓ | | ↓ | ↓ |
| | | | | | | |

Special Instructions/ Turnaround Time: 23061619

**Stop at 1st Positive per Homogenous Area** ***24 HR TAT***
**Fax Results to 845-278-7750**
**E-Mail results to AdelaideLabResults@Adelaidellc.com and Jfullum@adelaidellc.com**

Relinquished by:
Received by: Alexandra Vaccaro 6/23 1030
Relinquished by:
Received by:

**Adelaide Environmental Health Associates, Inc**
1454 Rte. 22, Suite B202
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: Yonkers Armory | Date: 6/6/2023 | Inspector: Jason Fullum |
|---|---|---|
| 2 Quincy Place | Client Project # | |
| Yonkers, New York 10701 | Project #: OGSX:23168.00-IN | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable Non Friable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 27 | 15 | 2 | Rm. 223 - Women locker - Terrazzo Shower Pan | | NF | D |
| 28 | 15 | 2 | | | | D |
| 29 | 16 | 2 | - Sealant at Shower | | | D |
| 30 | 16 | 2 | | | | D |
| 31 | 17 | 2 | Entrance Doors - Door Glazing Compound | | NF | |
| 32 | 17 | 2 | | | | |
| 33 | 18 | 2 | - Exterior Sealant | | | |
| 34 | 18 | 2 | | | | |
| 35 | 19 | 2 | Concrete | | | |
| 36 | 19 | 2 | | | | |
| 37 | 20 | 2 | Brick Mortar | | | |
| 38 | 20 | 2 | | | | |
| 39 | 21 | 2 | Exterior Vertical Sealant | | | |
| 40 | 21 | 2 | | | | |

Special Instructions/ Turnaround Time: 223061619

**Stop at 1st Positive per Homogenous Area** ***24 HR TAT***
**Fax Results to 845-278-7750**
**E-Mail results to AdelaideLabResults@Adelaidellc.com and Jfullum@adelaidellc.com**

Relinquished by:
Received by: Alexandra Vuic 6/7/23 1030
Relinquished by:
Received by:

**Adelaide Environmental Health Associates, Inc**
1454 Rte. 22, Suite B202
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

| Site Address: Yonkers Armory | Date: 6/6/2023 | Inspector: Jason Fullum |
|---|---|---|
| 2 Quincy Place | Client Project # | |
| Yonkers, New York 10701 | Project #: OGSX:23168.00-IN | |

| Sample ID # | Homogeneous Area | Floor Level | Sample Location/Description | Quantity (In Feet) | Friable Non Friable | Condition g, d, sd |
|---|---|---|---|---|---|---|
| 41 | 22 | 1 | Boiler Room - Pipe Mastic on Duct | | NF | D |
| 42 | 22 | 1 | | | | D |
| 43 | 23 | 1 | Kitchen - Wall Tile - Grout | | | |
| 44 | 23 | 1 | | | | |
| 45 | 24 | 1 | - Mudset | | | |
| 46 | 24 | 1 | | | | |
| 47 | 25 | 1 | - Floor Tile - Grout | | | |
| 48 | 25 | 1 | | | | |
| 49 | 26 | 1 | - Mudset | | | |
| 50 | 26 | 1 | | | | |
| 51 | 27 | 1 | Exterior - Door Caulk | | | |
| 52 | 27 | 1 | | | | |
| 53 | 28 | 1 | - Louver Caulk | | | |
| 54 | 28 | 1 | | | | |

Special Instructions/ Turnaround Time: 223061619

**Stop at 1st Positive per Homogenous Area** ***24 HR TAT***
**Fax Results to 845-278-7750**
**E-Mail results to AdelaideLabResults@Adelaidellc.com and Jfullum@adelaidellc.com**

Relinquished by:
Received by: Alexandra Vian 6/23 1030
Relinquished by:
Received by:

# APPENDIX E

# XRF READINGS

Adelaide Environmental Heath Associates Inc.
1511 Route 22, Suite C-24
Brewster, New York 10509
Adelaide Project# BA:23168.00-IN
Project Name: Yonkers Armory
Inspector: Jason Fullum

| Reading # | Date | Time | Space Type | Floor | Room | Component | Side | Substrate | Color | Condition | Lead Concentration (mg/cm2) | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6/6/2023 | 9:04:22 | Armory | | Calibration | | | | | | 0.9 | Negative |
| 2 | 6/6/2023 | 9:04:34 | Armory | | Calibration | | | | | | 0.9 | Negative |
| 3 | 6/6/2023 | 9:04:46 | Armory | | Calibration | | | | | | 0.9 | Negative |
| 4 | 6/6/2023 | 9:23:29 | Armory | 2nd Floor | 207 | Wall | A | CMU | Beige | Intact | -0.2 | Negative |
| 5 | 6/6/2023 | 9:24:00 | Armory | 2nd Floor | 207 | Door Case | A | Metal | Black | Intact | 0.4 | Negative |
| 6 | 6/6/2023 | 9:24:27 | Armory | 2nd Floor | 207 | Door | A | Metal | Red | Intact | 0.1 | Negative |
| 7 | 6/6/2023 | 9:25:07 | Armory | 2nd Floor | 201 | Door | A | Metal | Red | Intact | 0 | Negative |
| 8 | 6/6/2023 | 9:25:31 | Armory | 2nd Floor | 201 | Door Case | A | Metal | Black | Intact | 0.5 | Negative |
| 9 | 6/6/2023 | 9:25:58 | Armory | 2nd Floor | 201 | Wall | B | CMU | Black | Intact | -0.2 | Negative |
| 10 | 6/6/2023 | 10:29:25 | Armory | 2nd Floor | Hallway | Wall | B | CMU | Beige | Intact | -0.3 | Negative |
| 11 | 6/6/2023 | 10:30:21 | Armory | 2nd Floor | Hallway | Ceiling | Ceiling | Sheetrock | Beige | Intact | 0.1 | Negative |
| 12 | 6/6/2023 | 11:18:54 | Armory | 2nd Floor | Hallway | Stair Handrail | A | Metal | Red | Intact | 0.1 | Negative |
| 13 | 6/6/2023 | 11:19:20 | Armory | 2nd Floor | Hallway | Stair Stringer | A | Metal | Red | Intact | 0.1 | Negative |
| 14 | 6/6/2023 | 11:19:35 | Armory | 2nd Floor | Hallway | Stair Riser | A | Metal | Red | Intact | 0.2 | Negative |
| 15 | 6/6/2023 | 11:21:42 | Armory | 2nd Floor | Hallway | Ceiling | Ceiling | Sheetrock | Off White | Intact | 0.1 | Negative |
| 16 | 6/6/2023 | 11:28:51 | Armory | 2nd Floor | Bathroom | Floor | Floor | Concrete | Grey | Intact | 0 | Negative |
| 17 | 6/6/2023 | 11:30:19 | Armory | 2nd Floor | Bathroom | Floor | Floor | Concrete | Red | Intact | 0 | Negative |
| 18 | 6/6/2023 | 11:30:37 | Armory | 2nd Floor | Bathroom | Floor | Floor | Concrete | Yellow | Intact | 0 | Negative |
| 19 | 6/6/2023 | 11:31:02 | Armory | 2nd Floor | Bathroom | Wall | A | CMU | Yellow | Intact | -0.2 | Negative |
| 20 | 6/6/2023 | 11:31:26 | Armory | 2nd Floor | Bathroom | Ceiling | Ceiling | Sheetrock | Yellow | Intact | -0.2 | Negative |
| 21 | 6/6/2023 | 11:41:55 | Armory | 2nd Floor | 223 | Wall | D | CMU | Off White | Intact | -0.1 | Negative |
| 22 | 6/6/2023 | 11:42:25 | Armory | 2nd Floor | 223 | Door | A | Metal | Red | Intact | 0 | Negative |
| 23 | 6/6/2023 | 11:42:48 | Armory | 2nd Floor | 223 | Door Case | A | Metal | Black | Intact | 0.4 | Negative |
| 24 | 6/6/2023 | 11:43:21 | Armory | 2nd Floor | 223 | Floor | Floor | Concrete | Red | Intact | 0 | Negative |
| 25 | 6/6/2023 | 11:43:50 | Armory | 2nd Floor | 223 | Wall | B | CMU | Yellow | Intact | -0.3 | Negative |
| 26 | 6/6/2023 | 11:45:02 | Armory | 2nd Floor | 223 | Ceiling | Ceiling | Sheetrock | Yellow | Intact | 0 | Negative |
| 27 | 6/6/2023 | 13:30:04 | Armory | 1st Floor | Bathroom | Floor | Floor | Concrete | Green | Intact | 0.2 | Negative |
| 28 | 6/6/2023 | 13:30:37 | Armory | 1st Floor | Bathroom | Wall | A | CMU | Beige | Intact | -0.1 | Negative |
| 29 | 6/6/2023 | 13:31:07 | Armory | 1st Floor | Bathroom | Ceiling | Ceiling | Sheetrock | Beige | Intact | -0.2 | Negative |
| 30 | 6/6/2023 | 13:33:44 | Armory | 1st Floor | Exterior | roll up door rail | C | Metal | Green | Intact | 0 | Negative |
| 31 | 6/6/2023 | 13:34:32 | Armory | 1st Floor | Exterior | Door | C | Metal | Green | Intact | 0.1 | Negative |
| 32 | 6/6/2023 | 13:34:50 | Armory | 1st Floor | Exterior | Exterior Door | C | Metal | Green | Intact | -0.1 | Negative |
| 33 | 6/6/2023 | 13:35:08 | Armory | 1st Floor | Exterior | Exterior Door Case | C | Metal | Green | Intact | 0.4 | Negative |
| 34 | 6/6/2023 | 14:01:04 | Armory | 1st Floor | Exterior | Window Case | B | Metal | Green | Intact | 0 | Negative |
| 35 | 6/6/2023 | 14:05:06 | Armory | | Calibration | | | | | | 0.9 | Negative |
| 36 | 6/6/2023 | 14:05:18 | Armory | | Calibration | | | | | | 1 | Positive |
| 37 | 6/6/2023 | 14:05:30 | Armory | | Calibration | | | | | | 1 | Positive |

# APPENDIX F

# PCB ANALYTICAL RESULTS

PHOENIX
Environmental Laboratories, Inc.

**Thursday, June 15, 2023**

**Attn: Stephanie Soter**
**Adelaide Environmental Health Assoc,Inc**
**1511 Route 22, Suite C24**
**Brewster, NY 10509**

**Project ID:** YONKERS ARMORY 23168.00
**SDG ID:** GCO21952
**Sample ID#s:** CO21952 - CO21957

**This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.**

**This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.**

**All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.**

**A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.**

**If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.**

**Sincerely yours,**

**Phyllis Shiller**
**Laboratory Director**

**NELAC - #NY11301**
**CT Lab Registration #PH-0618**
**MA Lab Registration #M-CT007**
**ME Lab Registration #CT-007**
**NH Lab Registration #213693-A,B**
**NJ Lab Registration #CT-003**
**NY Lab Registration #11301**
**PA Lab Registration #68-03530**
**RI Lab Registration #63**
**VT Lab Registration #VT11301**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Sample Id Cross Reference

June 15, 2023

SDG I.D.: GCO21952

Project ID: YONKERS ARMORY 23168.00

| Client Id | Lab Id | Matrix |
|---|---|---|
| PCB1-WOMENS SHOWER | CO21952 | BULK |
| PCB2-GLAZING | CO21953 | CAULK |
| PCB3-EXT. DOOR CAULK | CO21954 | CAULK |
| PCB4-EXT. SEALANT | CO21955 | CAULK |
| PCB5- EXT. DOOR CAULK | CO21956 | CAULK |
| PCB 6-LOUVER CAULK | CO21957 | CAULK |

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | BULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21952

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB1-WOMENS SHOWER

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 2900 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 55 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 40 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 52 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 47 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

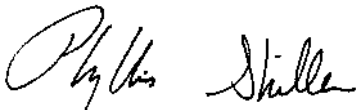
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

PCB Comment:
Due to limited sample an elevated RL was reported.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH NY #11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21953

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB2-GLAZING

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 930 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 54 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 52 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 57 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 55 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21954

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB3-EXT. DOOR CAULK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 880 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 39 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 34 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 31 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 31 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

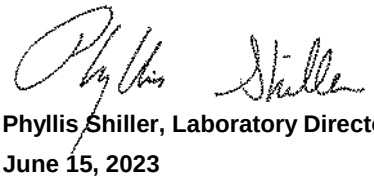
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21955

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB4-EXT. SEALANT

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 960 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 41 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 35 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 36 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 36 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

Project ID: YONKERS ARMORY 23168.00 Phoenix I.D.: CO21955

Client ID: PCB4-EXT. SEALANT

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

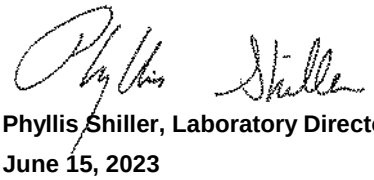
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**June 15, 2023**

**Reviewed and Released by: Rashmi Makol, Project Manager**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21956

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB5- EXT. DOOR CAULK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/08/23 | R/AW/SB/I | SW3540C |
| **PCB (Soxhlet SW3540C)** | | | | | | | |
| PCB-1016 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1221 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1232 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1242 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1248 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1254 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1260 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1262 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| PCB-1268 | ND | 600 | ug/Kg | 1 | 06/09/23 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | |
| % DCBP | 43 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 36 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX | 39 | | % | 1 | 06/09/23 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 38 | | % | 1 | 06/09/23 | SC | 30 - 150 % |

Project ID: YONKERS ARMORY 23168.00 Phoenix I.D.: CO21956

Client ID: PCB5- EXT. DOOR CAULK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

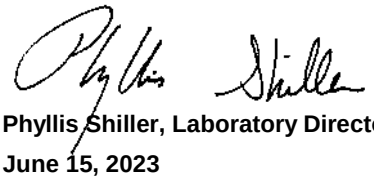
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**June 15, 2023**

**Reviewed and Released by: Rashmi Makol, Project Manager**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH NY #11301

# Analysis Report

June 15, 2023

FOR: Attn: Stephanie Soter
Adelaide Environmental Health Assoc,Inc
1511 Route 22, Suite C24
Brewster, NY 10509

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | CAULK | Collected by: | | 06/06/23 | |
| Location Code: | ADELAIDE | Received by: | MMN | 06/07/23 | 17:16 |
| Rush Request: | Standard | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCO21952
Phoenix ID: CO21957

Project ID: YONKERS ARMORY 23168.00
Client ID: PCB 6-LOUVER CAULK

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Caulk Extraction for PCB | Completed | | | | 06/12/23 | Q/AC1 | SW3540C | |
| **PCB (Soxhlet SW3540C)** | | | | | | | | |
| PCB-1016 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1221 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1232 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1242 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1248 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1254 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1260 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1262 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| PCB-1268 | ND | 940 | ug/Kg | 1 | 06/13/23 | SC | SW8082A | |
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 17 | | % | 1 | 06/13/23 | SC | 30 - 150 % | 3 |
| % DCBP (Confirmation) | 17 | | % | 1 | 06/13/23 | SC | 30 - 150 % | 3 |
| % TCMX | 17 | | % | 1 | 06/13/23 | SC | 30 - 150 % | 3 |
| % TCMX (Confirmation) | 17 | | % | 1 | 06/13/23 | SC | 30 - 150 % | 3 |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|

3 = This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

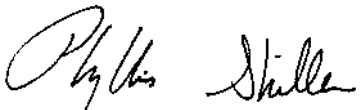
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

PCB Comment:
Poor surrogate recovery was observed for PCBs. Sample was re-extracted with similar results.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**June 15, 2023**
**Reviewed and Released by: Rashmi Makol, Project Manager**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

NY # 11301

# QA/QC Report

June 15, 2023

## QA/QC Data

SDG I.D.: GCO21952

| Parameter | Blank | Blk RL | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| QA/QC Batch 681421 (ug/Kg), QC Sample No: CO21956 10X (CO21952, CO21953, CO21954, CO21955, CO21956) | | | | | | | | | | |
| **Polychlorinated Biphenyls - Bulk** | | | | | | | | | | |
| PCB-1016 | ND | 170 | 99 | 91 | 8.4 | | | | 40 - 140 | 30 |
| PCB-1221 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1232 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1242 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1248 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1254 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1260 | ND | 170 | 106 | 107 | 0.9 | | | | 40 - 140 | 30 |
| PCB-1262 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1268 | ND | 170 | | | | | | | 40 - 140 | 30 |
| % DCBP (Surrogate Rec) | 107 | % | 111 | 106 | 4.6 | | | | 30 - 150 | 30 |
| % DCBP (Surrogate Rec) (Confirm | 102 | % | 101 | 102 | 1.0 | | | | 30 - 150 | 30 |
| % TCMX (Surrogate Rec) | 89 | % | 95 | 87 | 8.8 | | | | 30 - 150 | 30 |
| % TCMX (Surrogate Rec) (Confirm | 82 | % | 89 | 82 | 8.2 | | | | 30 - 150 | 30 |
| Comment: | | | | | | | | | | |
| A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate. | | | | | | | | | | |
| QA/QC Batch 681903 (ug/Kg), QC Sample No: CO21957 10X (CO21957) | | | | | | | | | | |
| **Polychlorinated Biphenyls** | | | | | | | | | | |
| PCB-1016 | ND | 170 | 101 | 105 | 3.9 | | | | 40 - 140 | 30 |
| PCB-1221 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1232 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1242 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1248 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1254 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1260 | ND | 170 | 115 | 121 | 5.1 | | | | 40 - 140 | 30 |
| PCB-1262 | ND | 170 | | | | | | | 40 - 140 | 30 |
| PCB-1268 | ND | 170 | | | | | | | 40 - 140 | 30 |
| % DCBP (Surrogate Rec) | 104 | % | 100 | 109 | 8.6 | | | | 30 - 150 | 30 |
| % DCBP (Surrogate Rec) (Confirm | 109 | % | 103 | 111 | 7.5 | | | | 30 - 150 | 30 |
| % TCMX (Surrogate Rec) | 99 | % | 95 | 103 | 8.1 | | | | 30 - 150 | 30 |
| % TCMX (Surrogate Rec) (Confirm | 98 | % | 95 | 102 | 7.1 | | | | 30 - 150 | 30 |
| Comment: | | | | | | | | | | |
| A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate. | | | | | | | | | | |

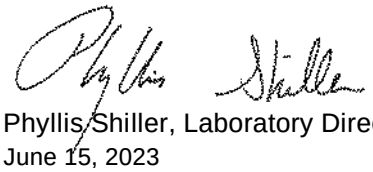
# QA/QC Data

SDG I.D.: GCO21952

| Parameter | Blank | Blk RL | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference



Phyllis Shiller, Laboratory Director
June 15, 2023

Thursday, June 15, 2023

Criteria: None

State: NY

# Sample Criteria Exceedances Report

## GCO21952 - ADELAIDE

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|---|---|---|---|---|---|---|---|---|
| CO21952 | $PCB_SOXR | PCB-1268 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1262 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1260 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1254 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1248 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1242 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1232 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1221 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |
| CO21952 | $PCB_SOXR | PCB-1016 | NY / Requested PCB RL / | ND | 2900 | 1000 | 1000 | ug/Kg |

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

**Environmental Laboratories, Inc.**
**587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045**
**Tel. (860) 645-1102 Fax (860) 645-0823**

NY # 11301

# Analysis Comments

June 15, 2023 SDG I.D.: GCO21952

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

***PCB Narration***

**AU-ECD5 06/13/23-1:** CO21957

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CO21957
Preceding CC 613B016 - None.
Succeeding CC 613B029 - DCBP SURR 23%L (15%)

**Environmental Laboratories, Inc.**
**587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045**
**Tel. (860) 645-1102 Fax (860) 645-0823**

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# NY Temperature Narration

**June 15, 2023**

**SDG I.D.: GCO21952**

The samples in this delivery group were received at 1.1°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes ☐ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp ____ °C Pg ____ of ____

# NY/NJ/PA CHAIN OF CUSTODY RECORD

**PHOENIX** Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: Makrina Nolan, makrina@phoenixlabs.com Fax (860) 645-0823
**Client Services (860) 645-1102**

**Contact Options:**
☐ Phone:
☐ Fax:
☐ Email:

Customer: Adelaide
Address: 1511 Rte 22, Ste C24
Somerset, NJ 10505

Project: Yankee Armory 23168.00
Report to:
Invoice to:
QUOTE # :

Project P.O:

***This section MUST be completed with Bottle Quantities.***

Sampler's Signature: _____ Date: 6/6/23

Client Sample - Information / Identification

**Matrix Code:**
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
OIL=Oil B=Bulk L=Liquid

Analysis Request

| PHOENIX USE ONLY SAMPLE # | Customer Sample Identification | Sample Matrix | Date Sampled | Time Sampled | *MS/MSD (May be billable at analysis unit rate) | PCB's | BAS | GL Amber 8 oz. [ ] wt $H_3PO_4$ [ ] $NaHSO_4$ | Soil VOA Vials [ ] methanol [ ] $H_2O$ | GL Soil container ( ) oz | 40 ml VOA Vial [ ] As is [ ] HCl | GL Amber 1000ml [ ] As is [ ] $H_2SO_4$ | PL As is [ ] 250ml [ ] 500ml [ ] 1000ml | PL $H_2SO_4$ [ ] 250ml [ ] 500ml [ ] 1000ml | PL NaOH 250ml | PL $HNO_3$ 250ml | Bacteria Bottle w/thio | Bacteria Bottle as is |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21952 | PCB1-Women Shower | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21953 | PCB2-Glazing Compd | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21954 | PCB3-Ext. Door Caulk | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21955 | PCB4-Ext. Vert. Sealant | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21956 | PCB5-Ext. Door Caulk | | 6/6/23 | | | X | 1 | | | | | | | | | | | |
| 21957 | PCB6-Louver Caulk | | 6/6/23 | | | X | 1 | | | | | | | | | | | |

| Relinquished by: | Accepted by: | Date: | Time: |
|---|---|---|---|
| | | 6.7.23 | 1000 |
| | | 6-7-23 | 15:45 |
| | | 6/7/23 | 17:16 |

**Turnaround:**
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*
☐ Standard
* SURCHARGE APPLIES
7 DAYS

**NJ**
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ Impact to GW soil screen Criteria
☐ GW Criteria

**NY**
☐ TOGS GW
☐ CP-51 SOIL
☐ 375SCO Unrestricted Soil
☐ 375SCO Residential Soil
☐ 375SCO Residential Restricted Soil
☐ 375SCO Commercial Soil
☐ 375SCO Industrial Soil
☐ Subpart 5 DW

**PA**
☐ Clean Fill Limits
☐ PA-GW
☐ Reg Fill Limits
☐ PA Soil Restricted
☐ PA Soil non-restricted

State Samples Collected?
NY

**Data Package:**
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

**Comments, Special Requirements or Regulations:**

**Data Format:**
☐ Phoenix Std Report ☐ EQuIS
☐ Excel ☐ NJ Hazsite EDD
☐ PDF ☐ NY EZ EDD (ASP)
☐ GIS/Key ☐ Other

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

# APPENDIX G

# PERSONNEL AND LABORATORY CERTIFICATIONS

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

# ASBESTOS HANDLING LICENSE

Adelaide Environmental Health Associates, Inc.
1511 Route 22, Suite C24, Brewster, NY, 10509

License Number: 29305
License Class: RESTRICTED
Date of Issue: 06/07/2023
Expiration Date: 07/31/2024
Duly Authorized Representative: John Soter

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

# United States Environmental Protection Agency

## This is to certify that

ADELAIDE ENVIRONMENTAL HEALTH ASSOCIATES INC

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires September 08, 2025

LBP-15081-2

Certification #

August 25, 2022

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

# United States Environmental Protection Agency

## This is to certify that

Adelaide Environmental Health Associates, Inc

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint renovation, repair, and painting activities pursuant to 40 CFR Part 745.89

## In the Jurisdiction of:

All EPA Administered States, Tribes, and Territories

This certification is valid from the date of issuance and expires December 05, 2027

NAT-15081-3

Certification #

August 03, 2022

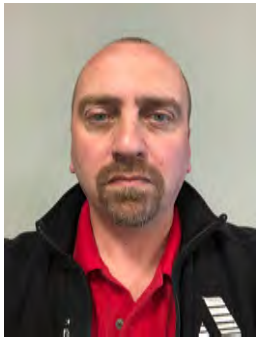
Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

# United States Environmental Protection Agency

## This is to certify that



Jason P Fullum

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires July 11, 2023

LBP-R-12098-2

Certification #

May 07, 2020

Issued On

Susan Schulz, Acting Chief

Chemicals and Multimedia Programs Branch

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S



**JASON P FULLUM**
CLASS(EXPIRES)
C ATEC(02/24) D INSP(02/24)
E MGPL(02/24) H PM (02/24)
I PD (02/24)

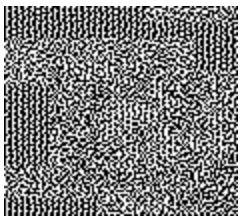
CERT# 97-20574
DMV# 375065936

MUST BE CARRIED ON ASBESTOS PROJECTS

EYES BLU
HAIR BRO
HGT 5' 11"

IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**



Expires 12:01 AM April 01, 2024
Issued April 01, 2022
Revised March 30, 2023

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*MS. KAROL H. LU*
*AMERICA SCIENCE TEAM NEW YORK, INC*
*117 EAST 30TH ST*
*NEW YORK, NY 10016*

*NY Lab Id No: 11480*

*is hereby APPROVED as an Environmental Laboratory for the category*
*ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE*
*All approved subcategories and/or analytes are listed below:*

**Miscellaneous**

| | |
|---|---|
| Asbestos in Friable Material | Item 198.1 of Manual |
| | EPA 600/M4/82/020 |
| Asbestos in Non-Friable Material-PLM | Item 198.6 of Manual (NOB by PLM) |
| Asbestos in Non-Friable Material-TEM | Item 198.4 of Manual |



Serial No.: 66402

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**

Expires 12:01 AM April 01, 2024
Issued April 01, 2022
Revised March 30, 2023

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*MS. PHYLLIS SHILLER*
*PHOENIX ENVIRONMENTAL LABS*
*587 EAST MIDDLE TURNPIKE*
*MANCHESTER, CT 06040*

*NY Lab Id No: 11301*

*is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE*
*All approved analytes are listed below:*

**Polychlorinated Biphenyls**

| | |
|---|---|
| Aroclor 1262 (PCB-1262) | EPA 8082A |
| Aroclor 1262 (PCB-1262) in Oil | EPA 8082A |
| Aroclor 1268 (PCB-1268) | EPA 8082A |
| Aroclor 1268 (PCB-1268) in Oil | EPA 8082A |
| PCB 101 | EPA 8082A |
| PCB 105 | EPA 8082A |
| PCB 118 | EPA 8082A |
| PCB 128 | EPA 8082A |
| PCB 138 | EPA 8082A |
| PCB 153 | EPA 8082A |
| PCB 170 | EPA 8082A |
| PCB 18 | EPA 8082A |
| PCB 180 | EPA 8082A |
| PCB 183 | EPA 8082A |
| PCB 184 | EPA 8082A |
| PCB 187 | EPA 8082A |
| PCB 195 | EPA 8082A |
| PCB 206 | EPA 8082A |
| PCB 209 | EPA 8082A |
| PCB 28 | EPA 8082A |
| PCB 44 | EPA 8082A |
| PCB 49 | EPA 8082A |
| PCB 52 | EPA 8082A |
| PCB 66 | EPA 8082A |
| PCB 8 | EPA 8082A |
| PCB 87 | EPA 8082A |
| PCB Congeners, Total | EPA 8082A |

Serial No.: 66336

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

**NEW YORK STATE DEPARTMENT OF HEALTH**
**WADSWORTH CENTER**

Expires 12:01 AM April 01, 2024
Issued April 01, 2022
Revised March 30, 2023

## CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

*MS. PHYLLIS SHILLER*
*PHOENIX ENVIRONMENTAL LABS*
*587 EAST MIDDLE TURNPIKE*
*MANCHESTER, CT 06040*

*NY Lab Id No: 11301*

*is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES AIR AND EMISSIONS*
*All approved analytes are listed below:*

| | |
|---|---|
| **Acrylates** | |
| Acrylonitrile | EPA TO-15 |
| Methyl methacrylate | EPA TO-15 |
| **Chlorinated Hydrocarbons** | |
| 1,2,4-Trichlorobenzene | EPA TO-15 |
| Hexachlorobutadiene | EPA TO-15 |
| Hexachloroethane | EPA TO-15 |
| **Metals I** | |
| Lead, Total | EPA 29 (6010) |
| | EPA 7010 |
| **Polychlorinated Biphenyls** | |
| PCBs and Aroclors | EPA TO-10A |
| **Polynuclear Aromatics** | |
| Naphthalene | EPA TO-15 |
| **Purgeable Aromatics** | |
| 1,2,4-Trimethylbenzene | EPA TO-15 |
| 1,2-Dichlorobenzene | EPA TO-15 |
| 1,3,5-Trimethylbenzene | EPA TO-15 |
| 1,3-Dichlorobenzene | EPA TO-15 |
| 1,4-Dichlorobenzene | EPA TO-15 |
| 2-Chlorotoluene | EPA TO-15 |
| Benzene | EPA TO-15 |
| Chlorobenzene | EPA TO-15 |
| Ethyl benzene | EPA TO-15 |
| Isopropylbenzene | EPA TO-15 |
| m/p-Xylenes | EPA TO-15 |

Serial No.: 66338

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

**Design and Construction**
**Division of Construction, 35th Floor, Corning Tower**
**The Governor Nelson A. Rockefeller Empire State Plaza**
**Albany, New York 12242**
**Phone: (518) 474-0331 FAX: (518) 474-8201**

# SCHEDULE OF SUBMITTALS

**PROJECT NO.: 47477-P**

**FACILITY: YONKERS ARMORY**

**CONTRACTOR:**

**PROJECT MANAGER: KELLY PERIARD**

**DESIGN CONSULTANT: A&J CONSULTING ENGINEERING SERVICES PC**

**ENGINEER-IN-CHARGE:**

## LEGEND

**PACK:** SUBMITTAL PACKAGE

**SD:** SHOP DRAWINGS

**PD:** PRODUCT DATA

**EPD:** ENVIRONMENTAL PRODUCT DECLARATION

**SAM:** SAMPLES

**QCS:** QUALITY CONTROL SUBMITTALS

**LEED:** LEED SUBMITTALS

**CCS:** CONTRACT CLOSEOUT SUBMITTALS

**SUBMITTAL REVIEW RESPONSIBILITY:**
**F:** OGS FIELD OFFICE
**F/O:** OGS FIELD OFFICE / OFFICE (ALBANY)
**D:** CONSULTANT / DESIGNER
**S:** OGS SCHEDULING DEPARTMENT
**RSM:** Regional Safety Manager

## INSTRUCTIONS TO THE CONTRACTOR

**1.** Refer to **Section 013300 Submittals** of the Project Manual for general requirements regarding submittals and to **Section 017716 - CONTRACT CLOSEOUT** for project closeout submittals.
**2.** Refer to Sections of the specifications indicated herein for details of the requirements for each submittal listed.
**3.** Indicate in the rows (spaces) following each item:
**a.** Critical submittals and long lead items (mark with an 'X'). Some critical submittals may already be identified by the design team. Confirm that these are critical submittals.
**b.** The date the item will be submitted, and date approval is required (allow at least 3 weeks), and the date delivery of the material or equipment is necessary for completion of the work in accordance with the Progress Schedule. The date entered for the submittal is the last date a substitution will be considered. Proposed substitutions must be made prior to the date entered if more than one substitution is to be submitted for approval. Spaces which contain N/A do not require dates.
**4.** An example of a Submittal Transmittal (BDC-42) can be located at: http://www.ogs.ny.gov/BU/DC/forms/ContractorConstForms.asp
**5.** Submit Contract Closeout Submittals (CCS) prior to final inspection.

## INSTRUCTIONS TO THE CONSULTANT / DESIGNER

**1.** Cut and paste required information from each Division (Div.X) tab and place in the S.O.S. tab.
**2.** Delete Division (Div.X) tabs after the S.O.S. tab has been in-filled.
**3.** Indicate F, F/O or D in column E. Items in Div.1 have defaults that can be modified as necessary.
**4.** Indicate items that are critical submittals in column F.
**Note:**
The following list of submittals is furnished for your convenience in scheduling submittals. The list is not warranted to be complete and does not take precedence over the contract documents. Enter additional submittals, as required and modify this schedule to the specific project. This S.O.S. will be used to populate the submittals website log.

NEW YORK STATE OF OPPORTUNITY. Office of General Services

**Design and Constr**
**Division of Construction, 34th Floor, Corni**
**The Governor Nelson A. Rockefeller Empire St**
**Albany, New Yo**
**Phone: (518) 474-0331 FAX: (518)**

# SCHEDULE OF SUBMITTALS

## PROJECT NO.: 47477-P

| SUBMITTALS FOR APPROVAL | | | | Send to: | Critical Submittals | Contractor's Project Allow at least 4 weeks fo (allows time for any resu | |
|---|---|---|---|---|---|---|---|
| Spec Section | Sub Section | Type | Description | F<br>F/O<br>D<br>S | Mark "X" for all that apply | Projected Transmittal Date: | Projected Approval Date: |
| **007213** | | | **GENERAL CONDITIONS** | | | | |
| **007213** | **6.1** | **PD** | ARTICLE 6: Designate in writing competent supervision and/or management representatives as required - include contact number in case of an emergency after work hours, including weekends and holidays (see 011000 Summary of Work) | F | | | |
| **007213** | **8.1** | **PD** | ARTICLE 8: Permits and licenses | F | | | |
| | | | | | | | |
| **011100** | | | **SAFETY** | | | | |
| **011100** | **1.4 A** | **QCS** | Site Specific Safety Plan | RSM | | | |
| **011100** | **1.4 B** | **QCS** | Employee Safety Orientation Training and Documentation | D/F | | | |
| | | | | | | | |
| **013300** | | | **SUBMITTALS** | | | | |
| **013300** | **1.6** | **PD** | Schedule of Submittals Acknowledgement | F | X | | |
| | | | | | | | |
| **017329** | | | **REMOVALS, CUTTING AND PATCHING** | | | | |
| **017329** | **1.6 A** | **QCS** | Qualification Data: Professional Engineer. | F | | | |
| **017329** | **1.6 B** | **QCS** | Schedule of Selective Demolition Actiities | F | | | |
| **017329** | **1.6 C** | **QCS** | Predemolition Photographs or Video | F | | | |
| | | | | | | | |
| **017716** | | | **CONTRACT CLOSEOUT** | | | | |
| **017716** | **1.4** | **CCS** | Project Record Documents | F | | | |
| **017716** | **1.5** | **CCS** | Operation and Maintenance | F | | | |
| **017716** | **1.6** | **CCS** | Warranties | F | | | |
| **017716** | **1.7** | **CCS** | Spare Parts and Maintenance Materials | F | | | |
| | | | | | | | |
| **017900** | | | **VIDEO TRAINING PROGRAMS** | | | | |
| **017900** | **1.3 A** | **CCS** | Instruction Program | F | | | |
| **017900** | **1.3 B** | **CCS** | Documentation: Attendance Roster, Evaluations | F | | | |
| | | | | F | | | |
| **210517** | | | **SLEEVES AND SLEEVE SEALS FOR FIRE-SUPPRESSION PIPING** | | | | |
| **210517** | **2.1** | **PD** | Sleeves | D | | | |
| **210517** | **2.2** | **PD** | Stack-Sleeve Fittings | D | | | |
| **210517** | **2.3** | **PD** | Sleeve-Seal Systems | D | | | |
| **210517** | **2.4** | **PD** | Sleeve-Seal Fittings | D | | | |
| **210517** | **2.5** | **PD** | Grout | D | | | |
| **210517** | **2.6** | **PD** | Silicone Sealants | D | | | |
| **210517** | **1.3 H** | **EPD** | Environmental Product Declaration | D | | | |
| **210517** | **1.3 I** | **QCS** | Field Quality-Control Reports | D | | | |
| | | | | | | | |

# SCHEDULE OF SUBMITTALS

## PROJECT NO.: 47477-P

| SUBMITTALS FOR APPROVAL | | | | Send to: | Critical Submittals | Contractor's Project Allow at least 4 weeks fo (allows time for any resu | |
|---|---|---|---|---|---|---|---|
| Spec Section | Sub Section | Type | Description | F<br>F/O<br>D<br>S | Mark "X" for all that apply | Projected Transmittal Date: | Projected Approval Date: |
| **210518** | | | **ESCUTCHEONS FOR FIRE-SUPPRESION PIPING** | | | | |
| **210518** | **2.2** | **PD** | Escutcheons | D | | | |
| **210518** | **2.3** | **PD** | Floor Plates | D | | | |
| | | | | | | | |
| **210523** | | | **GENERAL-DUTY VALVES FOR WATER-BASED FIRE-SUPPRESSION PIPING** | | | | |
| **210523** | **2.3** | **PD** | Two-Piece Valves with Indicators | D | | | |
| **210523** | **2.4** | **PD** | Iron Butterfly Valves with Indicators | D | | | |
| **210523** | **2.5** | **PD** | Check Valves | D | | | |
| **210523** | **2.6** | **PD** | NRS Gate Valves | D | | | |
| **210523** | **2.7** | **PD** | Trim and Drain Valves | D | | | |
| | | | | | | | |
| **210524** | | | **BACKFLOW PREVENTERS** | | | | |
| **210524** | **1.2 E** | **SD** | Full detailed drawings for backflow preventers. | D | | | |
| **210524** | **2.1** | **PD** | Backflow Preventers | D | | | |
| **210524** | **2.2** | **PD** | Rolling Work Platform | D | | | |
| **210524** | **2.4** | **PD** | Labeling and Identifying | D | | | |
| **210524** | **2.5** | **PD** | Field Quality Control | D | | | |
| **210524** | **1.2 F** | **QCS** | Field Quality-Control Reports | D | | | |
| **210524** | **1.2 G** | **QCS** | Forward Flow Test Completion | D | | | |
| **210524** | **1.4 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **210529** | | | **HANGERS AND SUPPORTS FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT** | | | | |
| **210529** | **1.4 B** | **SD** | Show fabricated piping support structures, pipe racks, trapeze pipe hangers and anchors | D | | | |
| **210529** | **2.1** | **PD** | Metal Pipe Hangers and Supports | D | | | |
| **210529** | **2.2** | **PD** | Trapeze Pipe Hangers | D | | | |
| **210529** | **2.3** | **PD** | Fastener Systems for Concrete, Steel, and Wood | D | | | |
| **210529** | **2.4** | **PD** | Pipe Stands | D | | | |
| **210529** | **2.5** | **PD** | Miscellaneous Materials | D | | | |
| **210529** | **1.4 C** | **QCS** | Welding Qualifications & Welding Certification | D | | | |
| | | | | | | | |
| **210553** | | | **IDENTIFICATION FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT** | | | | |
| **210553** | **2.1** | **PD** | Equipment Labels | D | | | |
| **210553** | **2.2** | **PD** | Warning Signs and Labels | D | | | |
| **210553** | **2.3** | **PD** | Pipe Labels | D | | | |
| **210553** | **2.4** | **PD** | Stencils | D | | | |
| **210553** | **2.5** | **PD** | Valve Tags | D | | | |
| **210553** | **2.6** | **PD** | Warning Tags | D | | | |
| **210553** | **2.7** | **PD** | Valve Service Identification Chart Frames | D | | | |
| **210553** | **1.3 E** | **SAM** | For color, letter style, and graphic representation required for each identification material and device. | F | | | |
| **210553** | **1.3 F** | **QCS** | Equipment-Label Schedule | D | | | |
| **210553** | **1.3 G** | **QCS** | Valve Schedules | D | | | |
| | | | | | | | |
| **211119** | | | **FIRE DEPARTMENT CONNECTIONS** | | | | |

# SCHEDULE OF SUBMITTALS

## PROJECT NO.: 47477-P

| SUBMITTALS FOR APPROVAL | | | | Send to: | Critical Submittals | Contractor's Project Allow at least 4 weeks fo (allows time for any resu | |
|---|---|---|---|---|---|---|---|
| Spec Section | Sub Section | Type | Description | F<br>F/O<br>D<br>S | Mark "X" for all that apply | Projected Transmittal Date: | Projected Approval Date: |
| **211119** | **2.1** | **PD** | Exposed-Type Fire-Department Connection | D | | | |
| | | | | | | | |
| **211313** | | | **WET PIPE SPRINKLER SYSTEMS** | | | | |
| **211313** | **1.4 G** | **SD** | Full detailed drawings for wet-pipe sprinkler systems. | D | | | |
| **211313** | **1.4 L** | **SD** | Coordination Drawings | D | | | |
| **211313** | **1.4 F** | **EPD** | Environmental Product Declaration | D | | | |
| **211313** | **2.2** | **PD** | Steel Pipe and Fittings | D | | | |
| **211313** | **2.3** | **PD** | Specialty Valves | D | | | |
| **211313** | **2.4** | **PD** | Air Vent | D | | | |
| **211313** | **2.5** | **PD** | Sprinkler Piping Specialties | D | | | |
| **211313** | **2.6** | **PD** | Sprinklers | D | | | |
| **211313** | **2.7** | **PD** | Alarm Devices | D | | | |
| **211313** | **2.8** | **PD** | Pressure Gauges | D | | | |
| **211313** | **1.4 D** | **QCS** | Fire Protection Engineer Qualification | D | | | |
| **211313** | **1.4 H 1** | **QCS** | Design Data | D | | | |
| **211313** | **1.4 H 2** | **QCS** | Certificates - Quality Assurance Article | D | | | |
| **211313** | **1.4 H 3** | **QCS** | Company Field Advisor Data | D | | | |
| **211313** | **1.4 I** | **QCS** | Welding Certificates | D | | | |
| **211313** | **1.4 J** | **QCS** | Fire-Hydrant Flow Test | D | | | |
| **211313** | **1.4 K** | **QCS** | Field Test Reports | D | | | |
| **211313** | **1.6** | **QCS** | Maintenance Material Submittals | D | | | |
| **211313** | **1.5 A** | **CCS** | Operation and Maintenance Data - 2 copies | F | | | |
| **211313** | **1.5 B** | **CCS** | Warranty Information | F | | | |
| **211313** | **1.5 C** | **CCS** | As-Built Drawings and Hydraulic Calculations | F | | | |
| **211313** | **1.5 D** | **CCS** | Written Statement to the Fire Code Official | F | | | |
| **211313** | **1.5 E** | **CCS** | Field Test Reports | F | | | |
| **211313** | **1.6 A** | **CCS** | Maintenance Material Submittals | F | | | |
| | | | | | | | |
| **220518** | | | **ESCUTCHEONS FOR PLUMBING PIPING** | | | | |
| **220518** | **2.2** | **PD** | Escutcheons | D | | | |
| **220518** | **2.3** | **PD** | Floor Plates | D | | | |
| | | | | | | | |
| **220523.12** | | | **BALL VALVES FOR PLUMBING PIPING** | | | | |
| **220523.12** | **2.2** | **PD** | Brass Ball Valves | D | | | |
| **220523.12** | **2.3** | **PD** | Bronze Ball Valves | D | | | |
| **220523.12** | **2.4** | **PD** | Steel Ball Valves | D | | | |
| **220523.12** | **2.5** | **PD** | Iron Ball Valves | D | | | |
| **220523.12** | **1.4 D 1** | **PD** | Certification that products comply with NSF 61 and NSF 372 | D | | | |
| | | | | | | | |
| **220523.14** | | | **CHECK VALVES FOR PLUMBING PIPING** | | | | |
| **220523.14** | **2.2** | **PD** | Bronze Lift Check Valves | D | | | |
| **220523.14** | **2.3** | **PD** | Bronze Swing Check Valves | D | | | |
| **220523.14** | **2.4** | **PD** | Iron Swing Check Valves | D | | | |
| **220523.14** | **1.4 D 1** | **PD** | Certification that products comply with NSF 61 and NSF 372 | D | | | |

# SCHEDULE OF SUBMITTALS

## PROJECT NO.: 47477-P

| SUBMITTALS FOR APPROVAL | | | | Send to: | Critical Submittals | Contractor's Project Allow at least 4 weeks fo (allows time for any resu | |
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| | | | | | | | |
| **220523.15** | | | **GATE VALVES FOR PLUMBING PIPING** | | | | |
| **220523.15** | **2.2** | **PD** | Bronze Gate Valves | D | | | |
| **220523.15** | **2.3** | **PD** | Iron Gate Valves | D | | | |
| **220523.15** | **1.4 C 1** | **PD** | Certification that products comply with NSF 61 and NSF 372 | D | | | |
| | | | | | | | |
| **220529** | | | **HANGERS AND SUPPORTS FOR PLUMBING PIPING EQUIPMENT** | | | | |
| **220529** | **1.3 E** | **SD** | Show fabrication and installation details and include calculations | D | | | |
| **220529** | **2.2** | **PD** | Metal Pipe Hangers and Supports | D | | | |
| **220529** | **2.3** | **PD** | Trapeze Pipe Hangers | D | | | |
| **220529** | **2.4** | **PD** | Metal Framing Systems | D | | | |
| **220529** | **2.5** | **PD** | Thermal Hanger-Shield Inserts | D | | | |
| **220529** | **2.6** | **PD** | Fastener Systems | D | | | |
| **220529** | **2.7** | **PD** | Pipe Stands | D | | | |
| **220529** | **2.8** | **PD** | Pipe-Positioning Systems | D | | | |
| **220529** | **2.9** | **PD** | Equipment Supports | D | | | |
| **220529** | **1.3 F** | **QCS** | Delegated-Design Submittal | D | | | |
| **220529** | **1.3 G** | **QCS** | Welding Certificates | F/O | | | |
| | | | | | | | |
| **220548.13** | | | **VIBRATION CONTROLS FOR PLUMBING PIPING EQUIPMENT** | | | | |
| **220548.13** | **1.4 E 1** | **SD** | Detail fabrication and assembly of equipment bases. | D | | | |
| **220548.13** | **1.4 E 2** | **SD** | Vibration Isolation Base Details | D | | | |
| **220548.13** | **1.4 E 3** | **SD** | Design Calculations for Vibration Isolation Devices | D | | | |
| **220548.13** | **1.4 E 4** | **SD** | Riser Supports | D | | | |
| **220548.13** | **1.4 F** | **SD** | Coordination Drawings | D | | | |
| **220548.13** | **2.2** | **PD** | Elastomeric Isolation Pads | D | | | |
| **220548.13** | **2.3** | **PD** | Pipe-Riser Reilient Support | D | | | |
| **220548.13** | **2.4** | **PD** | Resilient Pipe Guides | D | | | |
| **220548.13** | **2.5** | **PD** | Snubbers | D | | | |
| **220548.13** | **2.6** | **PD** | Restraints - Rigid Type | D | | | |
| **220548.13** | **2.7** | **PD** | Restraints - Cable Type | D | | | |
| **220548.13** | **2.8** | **PD** | Restraint Accessories | D | | | |
| **220548.13** | **2.9** | **PD** | Post-Installed Concrete Anchors | D | | | |
| **220548.13** | **2.10** | **PD** | Concrete Inserts | D | | | |
| **220548.13** | **2.11** | **PD** | Vibration Isolation Equipment Bases | D | | | |
| **220548.13** | **1.4 F** | **QCS** | Delegated-Design Submittal | D | | | |
| **220548.13** | **1.4 G** | **QCS** | Qualification Data: For professional engineer and testing agency. | F/O | | | |
| **220548.13** | **1.4 H** | **QCS** | Welding Certificates | F/O | | | |
| **220548.13** | **1.4 I** | **QCS** | Air-Spring Mounting System Performance Certification | F/O | | | |
| **220548.13** | **1.4 J** | **QCS** | Field Quality-Control Reports | F/O | | | |

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| **220548.13** | **1.5 A** | **CCS** | Operation and Maintenance Data | F/O | | | |
| | | | | | | | |
| **220553** | | | **IDENTIFICATION FOR PLUMBING PIPING EQUIPMENT** | | | | |
| **220553** | **2.1** | **PD** | Equipment Labels | D | | | |
| **220553** | **2.2** | **PD** | Warning Signs and Labels | D | | | |
| **220553** | **2.3** | **PD** | Pipe Labels | D | | | |
| **220553** | **2.4** | **PD** | Valve Tags | D | | | |
| **220553** | **2.5** | **PD** | Warning Tags | D | | | |
| **220553** | **1.3 D** | **SAM** | For color, letter style, and graphic representation required for each identification material and device | D | | | |
| **220553** | **1.3 E** | **QCS** | Equipment Label Schedule | D | | | |
| **220553** | **1.3 F** | **QCS** | Valve Numbering Scheme | D | | | |
| **220553** | **1.3 G** | **QCS** | Valve Schedules | D | | | |
| | | | | | | | |
| **220700** | | | **PLUMBING INSULATION** | | | | |
| **220700** | **2.2** | **PD** | Pipe Insulation | D | | | |
| **220700** | **2.3** | **PD** | Pipe Insulation Jackets | D | | | |
| **220700** | **2.4** | **PD** | Pipe Insulation Accessories | D | | | |
| **220700** | **2.5** | **PD** | Equipment Insulation | D | | | |
| **220700** | **2.6** | **PD** | Equipment Insulation Jackets | D | | | |
| **220700** | **2.7** | **PD** | Equipment Insulation Accessories | D | | | |
| **220700** | **1.3 E** | **PD** | Product Description, thermal characteristics and list of materials and thickness for each service, and location. | D | | | |
| **220700** | **1.3 F** | **SAM** | Submit two samples of representative size illustrating each insulation type | F/O | | | |
| **220700** | **1.3 G** | **QCS** | Manufacturer's Installation Instructions: Submit manufacturers published literature indicating proper installation procedures | F/O | | | |
| **220700** | **1.3 H** | **QCS** | Manufacturer's Certificate | F/O | | | |
| | | | | | | | |
| **220719** | | | **PLUMBING PIPING INSULATION** | | | | |
| **220719** | **1.3 E** | **SD** | Plans, elevations, sections, details, and attachments to other work. | D | | | |
| **220719** | **2.2** | **PD** | Insulation Cements | D | | | |
| **220719** | **2.3** | **PD** | Adhesives | D | | | |
| **220719** | **2.4** | **PD** | Mastics and Coatings | D | | | |
| **220719** | **2.5** | **PD** | Lagging Adhesives | D | | | |
| **220719** | **2.6** | **PD** | Sealants | D | | | |
| **220719** | **2.7** | **PD** | Factory-Applied Jackets | D | | | |
| **220719** | **2.8** | **PD** | Field-Applied Fabric-Reinforcing Mesh | D | | | |
| **220719** | **2.9** | **PD** | Field-Applied Cloths | D | | | |
| **220719** | **2.10** | **PD** | Field-Applied Jackets | D | | | |
| **220719** | **2.11** | **PD** | Tapes | D | | | |
| **220719** | **2.12** | **PD** | Securements | D | | | |
| **220719** | **2.13** | **PD** | Protective Shielding Guards | D | | | |
| **220719** | **1.3 F** | **SAM** | For each type of insulation and jacket indicated. Identify each Sample, describing product and intended use | F/O | | | |

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| **220719** | **1.4 A** | **QCS** | Qualification Data: For qualified Installer. | F/O | | | |
| **220719** | **1.4 B** | **QCS** | Material Test Reports | F/O | | | |
| **220719** | **1.4 C** | **QCS** | Field Quality-control Reports | F/O | | | |
| | | | | | | | |
| **220800** | | | **COMMISSIONING OF PLUMBING** | | | | |
| **220800** | **1.3 D** | **QCS** | Construction Checklist | F/O, D | | | |
| **220800** | **1.3 E** | **QCS** | Test Equipment and Instruments | F/O | | | |
| **220800** | **1.3 F** | **QCS** | Qualification Data: Plumbing Testing Technician Qualifications | F/O | | | |
| | | | | | | | |
| **221000** | | | **PLUMBING PIPING** | | | | |
| **221000** | **1.3 E** | **SD** | Indicate layout of piping systems, including equipment, critical dimensions, and sizes | D | | | |
| **221000** | **2.1** | **PD** | Domestic Water Piping, Buried Within 5 Feet of Building | D | | | |
| **221000** | **2.2** | **PD** | Domestic Water Piping Above Grade | D | | | |
| **221000** | **2.3** | **PD** | Sanitary Sewer Piping, Buried Within 5 Feet of Building | D | | | |
| **221000** | **2.4** | **PD** | Sanitary Sewer Piping, Above Grade | D | | | |
| **221000** | **2.5** | **PD** | Storm Water Piping, Buried Within 5 Feet of Building | D | | | |
| **221000** | **2.6** | **PD** | Storm Water Piping, Above Grade | D | | | |
| **221000** | **2.7** | **PD** | Unions and Flanges | D | | | |
| **221000** | **2.8** | **PD** | Underground Pipe Markers | D | | | |
| **221000** | **1.3 G** | **QCS** | Design Data | F/O, D | | | |
| **221000** | **1.3 H** | **QCS** | Welders' Certificate | F/O | | | |
| **221000** | **1.3 I** | **QCS** | Qualification Data: For Manufacturer and Installer | F/O | | | |
| | | | | | | | |
| **221116** | | | **DOMESTIC WATER PIPING** | | | | |
| **221116** | **1.3 F** | **SD** | Coordination Drawings | D | | | |
| **221116** | **2.2** | **PD** | Copper Tube and Fittings | D | | | |
| **221116** | **2.3** | **PD** | Piping Joining Materials | D | | | |
| **221116** | **2.4** | **PD** | Transition Fittings | D | | | |
| **221116** | **1.3 E** | **EPD** | Environmental Product Declaration | F/O | | | |
| **221116** | **1.3 G** | **QCS** | System Purgng and Disinfecting Activities Report | F/O, D | | | |
| **221116** | **1.3 H** | **QCS** | Field Quality-Control Reports | F/O | | | |
| | | | | | | | |
| **221119** | | | **DOMESTIC WATER PIPING SPECIALITIES** | | | | |
| **221119** | **1.4 E** | **SD** | Full detailed drawings for domestic water piping specialties. | D | | | |
| **221119** | **2.3** | **PD** | Backflow Preventers | D | | | |
| **221119** | **2.4** | **PD** | Balancing Valves | D | | | |
| **221119** | **2.5** | **PD** | Temperature-Actuated, Water Mixing Valves | D | | | |
| **221119** | **2.6** | **PD** | Strainers for Domestic Water Piping | D | | | |
| **221119** | **2.7** | **PD** | Drain Valves | D | | | |
| **221119** | **2.8** | **PD** | Water-Hammer Arresters | D | | | |
| **221119** | **2.9** | **PD** | Trap-Seal Primer Device | D | | | |
| **221119** | **2.10** | **PD** | Flexible Connectors | D | | | |
| **221119** | **2.11** | **PD** | Water Meters | D | | | |

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| **221119** | **1.4 F** | **QCS** | Test and Inspection Reports | F/O, D | | | |
| **221119** | **1.4 G** | **QCS** | Field Quality-Control Reports | F/O, D | | | |
| **221119** | **1.5 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **221316** | | | **SANITARY WASTE AND VENT PIPING** | | | | |
| **221316** | **1.3 F** | **SD** | For hubless, single-stack drainage system. Include plans, elevations, sections, and details | D | | | |
| **221316** | **2.2** | **PD** | Piping Materials | D | | | |
| **221316** | **2.3** | **PD** | Hub-and-Spigot, Cast-Iron Soil Pipe and Fittings | D | | | |
| **221316** | **2.4** | **PD** | Hubless, Cast-Iron Soil Pipe and Fittings | D | | | |
| **221316** | **2.5** | **PD** | Encasement for Underground Metal Piping | D | | | |
| **221316** | **1.3 G** | **QCS** | Seismic Qualification Certificates | D | | | |
| **221316** | **1.3 E** | **EPD** | Environmental Product Declaration | F/O | | | |
| **221316** | **1.3 H** | **QCS** | Field Quality-Control Reports | F/O | | | |
| | | | | | | | |
| **221319** | | | **SANITARY WASTE PIPING SPECIALITIES** | | | | |
| **221319** | **1.3 E** | **SD** | Show fabrication and installation details for frost-resistant vent terminals | D | | | |
| **221319** | **2.2** | **PD** | Cleanouts | D | | | |
| **221319** | **2.3** | **PD** | Miscellaneous Sanitary Drainage Piping Specialties | D | | | |
| **221319** | **1.4 F** | **QCS** | Field Quality-Control Reports | F/O | | | |
| **221319** | **1.5 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **221319.13** | | | **SANITARY DRAINS** | | | | |
| **221319.13** | **2.1** | **PD** | Drain Assemblies | D | | | |
| **221319.13** | **2.2** | **PD** | Floor Drains | D | | | |
| | | | | | | | |
| **221413** | | | **FACILITY STORM DRAINAGE PIPING** | | | | |
| **221413** | **1.4 A** | **SD** | Coordination Drawings | D | | | |
| **2214213** | **2.2** | **PD** | Hub-and-Spigot, Cast-Iron Soil Pipe and Fttings | D | | | |
| **2214213** | **2.3** | **PD** | Hubless, Cast-Iron Soil Pipe and Fttings | D | | | |
| **2214213** | **2.4** | **PD** | Cast-Iron, Hubless Piping Couplngs | D | | | |
| **2214213** | **2.5** | **PD** | Galvanized-Steel Pipe and Fittings | D | | | |
| **2214213** | **2.6** | **PD** | Specialty Pipe Fittings | D | | | |
| **2214213** | **1.4 B** | **CCS** | Field Quality-Control Reports | F | | | |
| | | | | | | | |
| **221429** | | | **SUMP PUMPS** | | | | |
| **221429** | **1.3 E** | **SD** | Full detailed drawings for pumps. | D | | | |
| **221429** | **2.2** | **PD** | Submersible Sump Pumps | D | | | |
| **221429** | **2.3** | **PD** | Sump Pump Capacites and Characteristics | D | | | |
| **221429** | **2.4** | **PD** | Motors | D | | | |
| **221429** | **1.4 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **224000** | | | **PLUMBING FIXTURES** | | | | |
| **224000** | **2.1** | **PD** | Flush Valve Water Closets | D | | | |
| **224000** | **2.2** | **PD** | Wall Hung Urinals | D | | | |

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| **224000** | **2.3** | **PD** | Lavatories | D | | | |
| **224000** | **2.4** | **PD** | Sinks | D | | | |
| **224000** | **2.5** | **PD** | Showers | D | | | |
| **224000** | **2.6** | **PD** | Drinking Fountains | D | | | |
| **224000** | **2.7** | **PD** | Lavatory Insulation Kit | D | | | |
| **224000** | **1.3 B** | **SAM** | Submit two lavatory supply fittings, fixtures for color matching, sets of color chips for each standard color | D | | | |
| **224000** | **1.3 D** | **QCS** | Manufacturer's Certificate | D | | | |
| **224000** | **1.4 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **224213.13** | | | **COMMERCIAL WATER CLOSETS** | | | | |
| **224213.13** | **2.1** | **PD** | Wall-Mounted Water Closets | D | | | |
| **224213.13** | **2.2** | **PD** | Flushometer Valves | D | | | |
| **224213.13** | **2.3** | **PD** | Toilet Seats | D | | | |
| **224213.13** | **2.4** | **PD** | Supports | D | | | |
| **224213.13** | **1.6 A** | **QCS** | Maintenance Material Submittals | F/O | | | |
| **224213.13** | **1.5 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **224213.16** | | | **COMMERCIAL URINALS** | | | | |
| **224213.16** | **2.1** | **PD** | Wall-Hung Urinals | D | | | |
| **224213.16** | **2.2** | **PD** | Urinal Flushometer Valves | D | | | |
| **224213.16** | **2.3** | **PD** | Supports | D | | | |
| **224213.16** | **1.5 A** | **QCS** | Maintenance Material Submittals | F/O | | | |
| **224213.16** | **1.4 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **224216.13** | | | **COMMERCIAL LAVATORIES** | | | | |
| **224216.13** | **1.4 A** | **SD** | Coordination Drawings | D | | | |
| **224216.13** | **2.1** | **PD** | Vitreous-China, Counter-Mounted Lavatories | D | | | |
| **224216.13** | **2.2** | **PD** | Manually Operated Lavatory Faucets | D | | | |
| **224216.13** | **2.3** | **PD** | Supply Fittings | D | | | |
| **224216.13** | **2.4** | **PD** | Waste Fittings | D | | | |
| **224216.13** | **1.6 A** | **QCS** | Maintenance Material Submittals | F/O | | | |
| **224216.13** | **1.5 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **224216.16** | | | **COMMERCIAL SINKS** | | | | |
| **224216.16** | **1.3 E** | **SD** | Coordination Drawings | D | | | |
| **224216.16** | **2.1** | **PD** | Service Sinks | D | | | |
| **224216.16** | **2.2** | **PD** | Utility Sinks | D | | | |
| **224216.16** | **2.3** | **PD** | Manually Operated Sink Faucets | D | | | |
| **224216.16** | **2.4** | **PD** | Supply Fittings | D | | | |
| **224216.16** | **2.5** | **PD** | Waste Fittings | D | | | |
| **224216.16** | **2.6** | **PD** | Sink Supports | D | | | |
| **224216.16** | **2.7** | **PD** | Grout | D | | | |
| **224216.16** | **1.5 A** | **QCS** | Maintenance Material Submittals | F/O | | | |
| **224216.16** | **1.4 A** | **CCS** | Operation and Maintenance Data | F/O | | | |
| | | | | | | | |
| **224223** | | | **COMMERCIAL SHOWERS** | | | | |
| **224223** | **2.1** | **PD** | Individual Showers | D | | | |

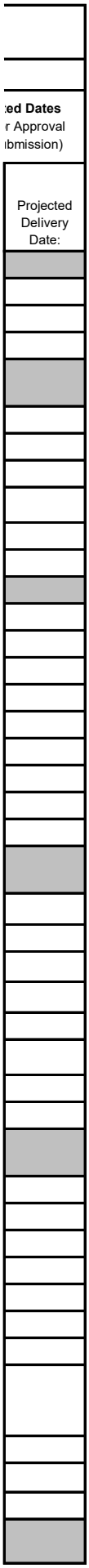
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| **224223** | **2.2** | **PD** | Shower Faucets | D | | | |
| **224223** | **2.3** | **PD** | Shower Basins | D | | | |
| **224223** | **2.4** | **PD** | Grout | D | | | |
| **224223** | **1.5 A** | **QCS** | Maintenance Material Submittals | F | | | |
| **224223** | **1.4 A** | **CCS** | Operation and Maintenance Data | F | | | |
| | | | | | | | |
| **224713** | | | **DRINKING FOUNTAINS** | | | | |
| **224713** | **2.1** | **PD** | Drinking Fountains | D | | | |
| **224713** | **2.2** | **PD** | Supports | D | | | |
| **224713** | **1.4 A** | **CCS** | Maintenance Data | F | | | |
| | | | | | | | |
| **231123** | | | **FACILITY NATURAL-GAS PIPING** | | | | |
| **231123** | **1.4 F** | **SD** | Full detailed drawings for facility natural-gas piping. | D | | | |
| **231123** | **1.4 H** | **SD** | Coordination Drawings | D | | | |
| **231123** | **1.4 I** | **SD** | Site Survey | D | | | |
| **231123** | **1.4 D 1** | **PD** | Piping Specialties | D | | | |
| **231123** | **1.4 D 2** | **PD** | Corrugated, Stainless-Steel Tubing with Associated Components | D | | | |
| **231123** | **1.4 D 3** | **PD** | Valves | D | | | |
| **231123** | **1.4 D 4** | **PD** | Pressure Regulators | D | | | |
| **231123** | **1.4 D 5** | **PD** | Service Meters | D | | | |
| **231123** | **1.4 D 6** | **PD** | Dielectric Fittings | D | | | |
| **231123** | **1.4 E** | **EPD** | Environmental Product Declaration | D | | | |
| **231123** | **1.4 G** | **QCS** | Delegated-Design Submittal | D | | | |
| **231123** | **1.4 J** | **QCS** | Qualification Data: For qualified professional engineer. | D | | | |
| **231123** | **1.4 K** | **QCS** | Welding Certificates | D | | | |
| **231123** | **1.4 L** | **QCS** | Field Quality-Control Reports | D/F | | | |
| **231123** | **1.5 A** | **CCS** | Operation and Maintenance Data | F | | | |
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| **Updated 09/12/2025** | | | | | | | |

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# SDVOB UTILIZATION PLAN

☐ **Initial Plan** ☐ **Revised plan** **Contract/Solicitation #** _____

**INSTRUCTIONS:** This Utilization Plan must contain a detailed description of the supplies and/or services to be provided by each NYS **Certified** Service-Disabled Veteran-Owned Business (SDVOB) under the contract. By submission of this Plan, the Bidder/Contractor commits to making good faith efforts in the utilization of SDVOB subcontractors and suppliers as required by the SDVOB goals contained in the Solicitation/Contract. Making false representations or providing information that shows a lack of good faith as part of, or in conjunction with, the submission of a Utilization Plan is prohibited by law and may result in penalties including, but not limited to, termination of a contract for cause, loss of eligibility to submit future bids, and/or withholding of payments. Firms that do not perform commercially useful functions may not be counted toward SDVOB utilization. Attach additional sheets if necessary.

| **BIDDER/CONTRACTOR INFORMATION** | | **SDVOB Goals In Contract** |
|---|---|---|
| Bidder/Contractor Name: | NYS Vendor ID: | % |
| Bidder/Contractor Address (Street, City, State and Zip Code): | | |
| Bidder/Contractor Telephone Number: | Contract Work Location/Region: | |
| Contract Description/Title: | | |

| **CONTRACTOR INFORMATION** | | | |
|---|---|---|---|
| Prepared by (Signature): | Name and Title of Preparer: | Telephone Number: | Date: |
| Email Address: | | | |

***If unable to meet the SDVOB goals set forth in the solicitation/contract, bidder/contractor must submit a request for waiver on the SDVOB Waiver Form.***

| | | |
|---|---|---|
| **SDVOB** Subcontractor/Supplier Name: | | |
| Please identify the person you contacted: | Federal Identification No.: | Telephone No.: |
| Address: | Email Address: | |
| Detailed description of work to be provided by subcontractor/supplier: | | |
| Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $_____ or _____% | | |

| | | |
|---|---|---|
| **SDVOB** Subcontractor/Supplier Name: | | |
| Please identify the person you contacted: | Federal Identification No.: | Telephone No.: |
| Address: | Email Address: | |
| Detailed Description of work to be provided by subcontractor/supplier: | | |
| Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $_____ or _____% | | |

| **FOR OGS USE ONLY** | | | | |
|---|---|---|---|---|
| OGS Authorized Signature: | | ☐ **Accepted** | ☐ **Accepted as Noted** | ☐ **Notice of Deficiency** |
| NAME (Please Print): | **SDVOB %/$** ____ | ____ | **Date Received:** | **Date Processed:** |
| Comments: | | | | |

**NYS CERTIFIED SDVOB SUBCONTRACTOR/SUPPLIER INFORMATION**: The directory of New York State Certified SDVOBs can be viewed at: https://ogs.ny.gov/Veterans/default.asp

***Note: All listed Subcontractors/Suppliers will be contacted and verified by*** OGS.

# ADDITIONAL SHEET

| **Bidder/Contractor Name:** | **Contract/Solicitation #**_____ |
|---|---|

| | | |
|---|---|---|
| **SDVOB** Subcontractor/Supplier Name: | | |
| Please identify the person you contacted: | Federal Identification No.: | Telephone No.: |
| Address: | Email Address: | |
| Detailed Description of work to be provided by subcontractor/supplier: | | |
| Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $_____ or _____% | | |
| **SDVOB** Subcontractor/Supplier Name: | | |
| Please identify the person you contacted: | Federal Identification No.: | Telephone No.: |
| Address: | Email Address: | |
| Detailed Description of work to be provided by subcontractor/supplier: | | |
| Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $_____ or _____% | | |
| **SDVOB** Subcontractor/Supplier Name: | | |
| Please identify the person you contacted: | Federal Identification No.: | Telephone No.: |
| Address: | Email Address: | |
| Detailed Description of work to be provided by subcontractor/supplier: | | |
| Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $_____ or _____% | | |
| **SDVOB** Subcontractor/Supplier Name: | | |
| Please identify the person you contacted: | Federal Identification No.: | Telephone No.: |
| Address: | Email Address: | |
| Detailed Description of work to be provided by subcontractor/supplier: | | |
| Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform)): $_____ or _____% | | |
| **SDVOB** Subcontractor/Supplier Name: | | |
| Please identify the person you contacted: | Federal Identification No.: | Telephone No.: |
| Address: | Email Address: | |
| Detailed Description of work to be provided by subcontractor/supplier: | | |
| Dollar Value of subcontracts/supplies/services (When $ value cannot be estimated, provide the estimated % of contract work the SDVOB will perform): $_____ or _____% | | |

NEW YORK STATE OF OPPORTUNITY. | Office of General Services | Division of Service-Disabled Veterans' Business Development

# Instructions for Completing the Monthly SDVOB Compliance Report – SDVOB 101

The SDVOB Monthly Reporting Form is to be completed by the Contractor/Vendor, and submitted by the 10th day of *each* month for the duration of the Contract. This form should include **all** (e.g. SDVOB and non SDVOB) Subcontractors and/or Suppliers assigned by the Contractor/Vendor to perform work during the contract. This reporting should also include payments made by your Subcontractors and/or Suppliers to SDVOB firms.

Complete the form as specified below.

| | |
|---|---|
| Contract No. | Indicate the OGS Contract No. |
| Contractor/Vendor Name and Address | Provide your firm's name and address. |
| Federal ID No. | Enter your firm's Federal ID No. |
| Goals | Indicate SDVOB participation goals. |
| Reporting Period | Fill in the month and year of reporting period. One copy must be submitted with final payment application. |
| Description of Project | Briefly describe the work you are providing under the terms of this contract. |
| Firm Name and Address | Provide the name, address and phone number of **all** Subcontractors/Suppliers assigned by the Contractor/Vendor on this contract or purchase agreement(s). |
| Federal ID No. | Enter the Subcontractor's/Supplier's Federal ID No. If no Federal ID No. has been assigned, provide only the owner's last four (4) digits of his or her Social Security No. |
| Payment This Month | Indicate the amount paid *this month* to each Subcontractor/Supplier. If there was no income activity for a Subcontractor/Supplier, please check the box indicating "No Payment This Month." |
| Contract Amount | Enter the total contract amount or purchase agreement(s) amount for each Subcontractor/Supplier. |
| Description of Work/Supplies | Briefly describe the work performed or supplies provided by each Subcontractor/Supplier. |

Submit to:

Design & Construction SDVOB Compliance Specialist
35th Floor, Corning Tower
Albany, New York 12242
Email: DCSDVOB@ogs.ny.gov

# CONTRACTOR'S MONTHLY SDVOB COMPLIANCE REPORT (DUE ON THE 10TH DAY OF EACH MONTH FOR THE PRECEDING MONTH'S ACTIVITY AS EVIDENCE TOWARDS ACHIEVEMENT OF THE SDVOB GOALS ON THE CONTRACT)

Contract No.: _____

| Contractor/Vendor Name, Address and Phone No.: | Contractor/Vendor Federal ID No.: | SDVOB Goals | Reporting Period | |
|---|---|---|---|---|
| | Description of Project: | % | Month | Year |
| | | | | |

| Firm Name, Address and Phone Number (List All Firms) | Description of Work or Supplies Provided | Designation | | Payment This Month | Contract Amount |
|---|---|---|---|---|---|
| Federal ID No.: | | ☐ SDVOB<br>☐ Sub<br>☐ Broker<br>☐ Joint Venture<br>☐ Written Contract | ☐ Supplier<br>☐ Team<br>☐ Other<br>☐ No Written Contract | ☐ No Payment This Month | |
| Federal ID No.: | | ☐ SDVOB<br>☐ Sub<br>☐ Broker<br>☐ Joint Venture<br>☐ Written Contract | ☐ Supplier<br>☐ Team<br>☐ Other<br>☐ No Written Contract | ☐ No Payment This Month | |
| Federal ID No.: | | ☐ SDVOB<br>☐ Sub<br>☐ Broker<br>☐ Joint Venture<br>☐ Written Contract | ☐ Supplier<br>☐ Team<br>☐ Other<br>☐ No Written Contract | ☐ No Payment This Month | |
| Federal ID No.: | | ☐ SDVOB<br>☐ Sub<br>☐ Broker<br>☐ Joint Venture<br>☐ Written Contract | ☐ Supplier<br>☐ Team<br>☐ Other<br>☐ No Written Contract | ☐ No Payment This Month | |

_____ Signature

_____ Print Name and Title

_____ Date

**Submission of this form constitutes the Contractor's acknowledgement as to the accuracy of the information contained herein. Failure to submit complete and accurate information may result in a finding of noncompliance, non-responsibility, suspension and/or termination of the Contract.**

| For OGS Use Only | |
|---|---|
| Reviewed By: | Date: |

# APPLICATION FOR WAIVER OF SDVOB PARTICIPATION GOAL

***(must be submitted before requesting final payment on the Contract)***

## Section 1: Basic Information

| | |
|---|---|
| Contractor's Name: | Federal Identification Number: |
| Street Address: | E-Mail Address: |
| City, State, Zip Code: | Telephone:<br>( ) - |

| | |
|---|---|
| Contract Number: | SDVOB CONTRACT GOALS<br>% |

## Section 2: Type of SDVOB Waiver Requested

| | | | |
|---|---|---|---|
| ☐ Total | ☐ Partial | If partial waiver, please enter the revised SDVOB percentage: | % |

Please explain the reason for the waiver request:

## Section 3: Supporting Documentation

Provide the following documentation as evidence of your good faith efforts to meet the SDVOB goals set forth in the contract and in support of your waiver application:

- ❑ **Attachment A.** Copies of solicitations to SDVOBs and any responses thereto.
- ❑ **Attachment B.** Explanation of the specific reasons each SDVOB that responded to Bidders/Contractors' solicitation was not selected.
- ❑ **Attachment C.** Dates of any pre-bid, pre-award or other meetings attended by Contractor, if any, scheduled by OGS with certified SDVOBs whom OGS determined were capable of fulfilling the SDVOB goals set forth in the contract.
- ❑ **Attachment D.** Information describing the specific steps undertaken to reasonably structure the contract scope of work for the purpose of subcontracting with, or obtaining supplies from, certified SDVOBs.
- ❑ **Attachment E.** Other information deemed relevant to the request.

## Section 4: Signature and Contact Information

**By signing and submitting this form, the contractor certifies that a good faith effort has been made to promote SDVOB participation pursuant to the SDVOB requirements set forth under the solicitation or Contract. Failure to submit complete and accurate information may result in a finding of noncompliance, non-responsibility, and a suspension or termination of the contract.**

| | |
|---|---|
| Prepared By: (Signature) | Date: |
| Name and Title of Preparer (Print or Type) | |

| For OGS Use Only | |
|---|---|
| Reviewed By: | Date: |
| Decision:<br>☐ Full SDVOB waiver granted<br>☐ Partial SDVOB waiver granted; revised SDVOB goal: _____ %<br>☐ SDVOB waiver denied | |
| Approved By: | Date: |
| Date Notice of Determination Sent: | |
| Comments | |