SALEM AND BEVERLY WATER SUPPLY BOARD

CONTRACT NO. 2022-1:
FACILITIES UPGRADES

ADDENDUM NO. 2

TO ALL PROSPECTIVE BIDDERS OF RECORD:

Prospective Bidders are hereby informed that the Contract Documents for the above-referenced contract are modified, corrected and/or supplemented as follows and that this Addendum is hereby made a part of the Contract Documents, except for any items identified herein as for information only.

Bidders shall acknowledge receipt of this Addendum in the space designated on the Bid Form. Failure to do so may subject the Bidder to disqualification.

A. CHANGES TO THE CONTRACT DOCUMENTS:

1. In Appendix D to the Contract Documents, **INSERT** the attached "PLAN APPROVAL - TREATMENT FACILITY MODIFICATION - BRP WS 25 - WTP UPGRADES AND OTHER WORK" included in this Addendum No. 2 as Attachment A-1.

2. In Appendix B, **INSERT** the attached report titled "HAZARDOUS MATERIALS INSPECTION REPORT PUTNAMVILLE RESEVOIR GATEHOUSE LAKEVEIW AVENUE/LOCUST STREET DANVERS, MASSACHUSETTS" ("ATC Report"), dated December 21, 2018 included in this Addendum No. 2 as Attachment A-2.

3. In Appendix B, **INSERT** the attached testing reports titled "FILTER GALLERY LEAD BASED PAINT SAMPLE RESULTS", dated March 10, 2020 included in this Addendum No. 2 as Attachment A-3.

4. On Sheet 10 A-101, **DELETE** Pipe Painting Schedule Note 4. And **REPLACE** with

"4. REFER TO SECTION 09999 FOR LEAD BASED PAINT REMOVAL. REFER TO APPENDIX B FOR LOCATIONS WHERE LEAD BASED PAINT ("LBP") IS ANTICIPATED TO BE ENCOUNTERED."

5. On Sheet 10 A-101, **DELETE** Room Finish Schedule Note 2. And **REPLACE** with
"2. REFER TO SECTION 09999 FOR LEAD BASED PAINT REMOVAL. REFER TO APPENDIX B FOR LOCATIONS WHERE LBP IS ANTICIPATED TO BE ENCOUNTERED."

6. On Sheet 30 A-102, **DELETE** General Notes 1. And **REPLACE** with
"1. REMOVE LOOSE AND PEELING EXISTING PAINT OF PIPES, WALLS, AND CEILING; AS INDICATED ON PLAN AND SCHEDULE. REFER TO SECTION 09999 FOR LEAD BASED PAINT REMOVAL REQUIREMENTS. REFER TO APPENDIX B-1 FOR LOCATIONS WHERE LBP IS ANTICIPATED TO BE ENCOUNTERED."

7. On Sheet 10 SD-101, **DELETE** Note 1. under GATEHOUSE ROOF LEVEL DEMOLITION PLAN and **REPLACE** with
"1. ROOF DEMOLITION WILL REQUIRE ABATEMENT OF ASBESTOS CONTAINING MATERIALS. REF. ATC REPORT DATED 12-21-2018 IN APPENDIX B. REFER TO SPECIFICATION 02080 FOR ADDITIONAL REQUIREMENTS."

8. On Sheet 10 SD-101, under GRADE LEVEL DEMOLITION PLAN, **INSERT** the following:
"2. REFER TO ATC REPORT DATED 12-21-2018 IN APPENDIX B FOR LOCATIONS WHERE LEAD BASED PAINT AND ASBESTOS CONTAINING MATERIAL IS ANTICIPATED TO BE ENCOUNTERED. REFER TO SPECIFICATION SECTION 09999 - LEAD BASED PAINT REMOVAL AND 02080 - ASBESTOS REMOVAL AND DISPOSAL FOR ADDITIONAL REQUIREMENTS."

9. On Sheet 10 SD-101, under EXISTING UPPER VALVE DEMOLITION PLAN APPROX. EL. 67.17, **DELETE** the note and **INSERT** the following:

" 1. CONTRACTOR SHALL FULLY SHORE PIPE DURING DEMOLITION AND REPLACEMENT OF EXISTING VALVE SUPPORT.

2. REFER TO ATC REPORT DATED 12-21-2018 IN APPENDIX B FOR LOCATIONS WHERE LEAD BASED PAINT AND ASBESTOS CONTAINING MATERIAL IS ANTICIPATED TO BE ENCOUNTERED. REFER TO SPECIFICATION SECTION 09999 - LEAD BASED PAINT REMOVAL AND 02080 - ASBESTOS REMOVAL AND DISPOSAL FOR ADDITIONAL REQUIREMENTS."

10. On Sheet 10 SD-101, under EXISTING LOWER VALVE SUPPORT AND GRATING PLAN APPROX. EL. 53.94, **DELETE** the note and **INSERT** the following:

" 1. CONTRACTOR SHALL FULLY SHORE PIPE DURING DEMOLITION AND REPLACEMENT OF EXISTING VALVE SUPPORT.

2. REFER TO ATC REPORT DATED 12-21-2018 IN APPENDIX B FOR LOCATIONS WHERE LEAD BASED PAINT AND ASBESTOS CONTAINING MATERIAL IS ANTICIPATED TO BE ENCOUNTERED. REFER TO SPECIFICATION SECTION 09999 - LEAD BASED PAINT REMOVAL AND 02080 - ASBESTOS REMOVAL AND DISPOSAL FOR ADDITIONAL REQUIREMENTS."

11. In Specification Section 11356 - SLUDGE COLLECTION EQUIPMENT - CHAIN AND FLIGHT, -1, **INSERT** the following under Paragraph 1.02:

"G. National Sanitation Foundation (NSF)

1. NSF 61 - Drinking Water System Components - Health Effects".

12. In Specification Section 11356 - SLUDGE COLLECTION EQUIPMENT - CHAIN AND FLIGHT, -1, **INSERT** the following under Paragraph 2.05.C.1:

"c. Material shall be compliant with requirements of the latest edition of NSF 61 - Drinking Water System Components - Health Effects."

13. In Specification Section 11356 - SLUDGE COLLECTION EQUIPMENT - CHAIN AND FLIGHT, -1, **INSERT** the following under Paragraph 3.02:

"C. Wood and/or laminated wood flights shall be stored in accordance with the manufacturer's recommendations, including

but not limited to maintaining adequate moisture content in the storage area to prevent damage to existing flights. Any damaged flights not stored in accordance with the manufacturer's recommendations shall be replaced by the Contractor at no additional cost to the Owner."

14. In Volume 1 of 2 of the Contract Documents, Notice to Bidders, second paragraph, **DELETE** the date and time for opening Sub-Bids: "11:00 a.m., local time, on July 9, 2024" and **REPLACE** with the following:

"11:00 a.m., local time, on July 12, 2024"

15. In Volume 1 of 2 of the Contract Documents, Information for Bidders, Section IB.1.A.(2), **DELETE** the date and time for opening Sub-Bids: "July 9, 2024 at 11:00 a.m., local time" and **REPLACE** with the following:

"July 12, 2024 at 11:00 a.m., local time"

16. In Volume 1 of 2 of the Contract Documents, **INSERT** the following at the end of Appendix B:

"3. HAZARDOUS MATERIALS INSPECTION REPORT PUTNAMVILLE RESEVOIR GATEHOUSE LAKEVEIW AVENUE/LOCUST STREET DANVERS, MASSACHUSETTS dated December 21, 2018

4. FILTER GALLERY LEAD BASED PAINT SAMPLE RESULTS", dated March 10, 2020"

B. ANSWERS TO QUESTIONS RECEIVED

Question: *Please confirm AIS is not applicable on this project.*

Response: This project is not subject to American Iron and Steel (AIS) or Build America Buy America (BABA).

Question: *Is Type 316 stainless steel acceptable in lieu of specified Type 316L stainless steel for fastener hardware such as hex nuts, hex bolts, threaded rod, flat washers, lock washers, pipe u-bolts, etc?*

Response: Hardware and fasteners can be provided as Type 316SS, as specified. All fabricated components shall be manufactured from Type 316L stainless steel.

Question: Section 11356, *Paragraph 2.06 – Wear Shoes specifies new carry and return shoes for all flights. However, no quantity of shoes or flights was specified.*

a. *Please provide the quantity of flights to get new shoes or the required quantity of each type of shoes.*

Response: The Contractor is responsible for verifying final quantities. Please see following response on flight spacing.

b. *If those quantities aren't readily available, please confirm the flights are on 10 ft centers, and we can determine quantities from that.*

Response: Per original shop drawing submittals, the flights for existing tanks are indicated as 10 ft centers.

Question: Section 11356, *Paragraph 2.06.B (Page 8) references a hardness scale for the wear shoes, but no hardness value is given. Please specify the hardness of the wear shoes and if that value is for the surface or center of the shoes.*

Response: All external faces of the angle shall be hardened for a depth of at least 1/8 inch to a Rockwell C hardness range of 40-56 and core hardened to a Rockwell C hardness of 30.

Question: Section 11356, *Paragraph 2.06.D (Page 8) states that the wear shoes have to match existing wear shoes.*

Please confirm that samples of the existing wear shoes will be available after bid award for duplication.

Response: Samples of existing wear shoes will be available after bid award for duplication.

Question: Section 11356, *Paragraph 1.04.A.2 (Page 3) specifies that wood flights are to be provided as spare parts instead of being specified in Part 2 - Products. Please confirm that wood flights are to be provided per Paragraph 1.04.*

Response: Confirmed.

Question: *a.* Section 11356, *Paragraph 2.07 - Hardware (Pages 8 and 9) reference hardware that has to be provided for components replaced. However, their end use is not specified. Please confirm that the hardware is for mounting both the flights to the collector chain and the return wear shoes to the flights.*

Response: The replacement hardware specified includes all hardware that must be removed to perform the specified work. All removed hardware shall be replaced with new hardware as specified. This includes the flights to collector chain and return wear shoes to the flights and any other hardware required for installation of the supplied equipment.

Question: Regarding Section 09999 Lead Based Paint Removal, is the intent for a full coating removal to be required on overhead concrete surfaces, vertical brick/concrete wall surfaces, vertical brick/concrete column surfaces, existing to remain Ductile Iron Pipe, and all surfaces are specified to receive PE (Solvent Base Polyamide Epoxy Coating) per Section 09941?

Response: Please see hazardous materials investigation report included in Appendix B to the Contract Documents and additional testing results included with this Addendum for

additional information on areas with lead based paint. Full coating removal is required in these areas.

Question: Referencing Photo D on Drawing 30 A-102 (the vertical faces of the filter bay walkways at water level and above) - Is full coating removal required on these surfaces?

Response: Yes, the full coating removal is required on these surfaces (inside vertical faces of the filter bay walkways at water level and above). These surfaces should be sealed and polished as specified on Drawing 30 A-102.

Question: Will the filter bays be drained and put offline for the duration of the coating removal?

Response: Yes, the filter bays will be drained and put offline for the duration of the coating removal. The Painting Contractor shall coordinate with the General Contractor. Section 01810 specifies that "prior to any in basin filter replacement work, Contractor shall remove existing coating and clean existing filter boxes with NSF approved materials."

Question: Per 01810 maintenance of plant operation B.3.g " Prior to any in basin Filter replacement work, Contractor shall remove any existing coating and clean existing filter boxes with NSF approved materials" Who is responsible for the removal of any existing coating and clean existing filter boxes?

Response: The Painting filed sub-bidder is responsible for the removal of existing coating and the General Contractor is responsible for the cleaning of the existing filter boxes.

Question: Is it the intent for the Painting filed sub-bidder to remove all Lead Based Paint ("LBP") from substrates scheduled to be painted?

Response: Yes. Refer to Appendix B and additional information provided as an attachment to this Addendum.

Question: Is it the intent fully remove all LBP off substrates scheduled to demolished?

Response: The full removal of coatings from items/substrates scheduled for demolition is not required.

Question: Please confirm if the surface preparation required for the Division 9 painting is limited to the removal of Loose and peeling utilizing the applicable standards specified in Division 9?

Response: Confirmed.

Question: Please advise what the size of the existing laminated wood flights are (depth x height) so we can be sure we are quoting the correct size and matching what is currently in use in these tanks.

Response: There are two sizes of flights in use at the water filtration plant. See below:

Basins 1+2 (LWH)

178 in. (+/- 0.5 in.) x 7.5 in. (+/- 1/16 in.) x 2.5 in.

Basins 3-10 (LWH)

188 in. (+/- 0.5 in.) x 7.5 in. (+/- 1/16 in.) x 2.5 in.

Question: Is it the intent for the painting Filed Sub-Bidder ("FSB") to prepare all new and existing submerged ferrous metals to receive a SSPC SP-10 near white blast?

Response: Yes, it is the intent of the painting FSB to prepare all new and existing submerged ferrous metals to receive an SSPC SP-10 near white blast for the items included in the overall contract painting schedule included on Sheet 10 A-101.

Question: Is it the intent for the painting FSB to prepare all new and existing non submerged ferrous metals to receive a SSPC-SP-6 commercial Blast?

Response: Yes, it is the intent of the painting FSB to prepare all new and existing submerged ferrous metals to receive an SSPC SP-10 near white blast for the items included in the overall contract painting schedule included on Sheet 10 A-101.

Question: Is it the intent for the painting FSB to brush sand blast all existing and new concrete surfaces to be painted?

Response: Yes; per Section 09941, concrete surfaces to be field painted shall be brush blasted.

Question: Is it the intent to paint the existing walls in the Filter pipe gallery?

Response: No; the filter pipe gallery walls are not included in the contract. Refer to the overall contract painting schedule included on Sheet 10 A-101.

Question: Is it the intent to paint all new and existing piping in the filter pipe gallery?

Response: Refer to the overall contract painting schedule included on Sheet 10 A-101.

Question: Does the painting FSB painting contractor have any obligation to perform any lead abatement for the purpose of Demolition? If so what are the limits of this work as this is unquantifiable?

Response: No, the painting filed sub bidder is not required to abate lead on items to be demolished.

Question: Please confirm the Electrical Filed Sub Bid is responsible for their respective demolition, removal and disposal.

Response: Yes, the electrical filed sub bidder is responsible for their respective demolition, removal and disposal. Refer to Section 16050, paragraph 3.05.

III. FOR INFORMATION ONLY

Bidders are reminded of the requirements in the Contract Documents in Section IB. INFORMATION FOR BIDDERS at subsection IB.14 BLANK FORMS FOR BIDS, and at subsection IB.16 BID DEPOSIT. See also the copies of the blank Bid Form and the blank form of Bid Bond in Appendices F through I of the Contract Documents that are to be used in submitting a bid.

END OF ADDENDUM NO. 2

Engineer:

AECOM Technical Services, Inc.
250 Apollo Drive
Chelmsford, Massachusetts 01824

Salem and Beverly Water Supply Board
Alan F. Taubert, Jr., P.E.
Executive Director

Date of Addendum: July 3, 2024

Attachment A-1

To Addendum No. 2

PLAN APPROVAL – TREATMENT FACILITY MODIFICATION – BRP WS 25 – WTP UPGRADES AND OTHER WORK

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 150 Presidential Way Woburn, MA 01801 • 978-694-3200

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

June 17, 2024

Bradley Perron
Salem and Beverly Water Supply Board
50 Arlington Ave
Beverly, MA 01915
bperron@sbwsb.net

Re: City/Town: Beverly
PWS Name: Salem and Beverly Water Supply Board
PWS ID #: 3030001
Program: System Modifications
Action: Plan Approval – Treatment Facility Modification – BRP WS 25 – WTP Upgrades and Other Work
Activity No.: 24-WS25-0007-APP

Dear Bradley Perron:

Please find attached the Northeast Regional Office of the Department of Environmental Protection's Drinking Water Program (MassDEP, or the Department) findings of a review of the information submitted relative to the above referenced project.

With this notification, the Department grants its formal approval for the Salem and Beverly Water Supply Board to construct the modifications described in the submittals, subject to the understandings and conditions outlined in the attachment.

This document is being provided with digital signature and indicates formal issuance of this document.

If you have any questions regarding this letter, please contact Nick Zessoules at Nicholas.zessoules@mass.gov or 857-772-3108.

Sincerely,

Kristin L. Divris 6/17/2024

Kristin L. Divris
Deputy Regional Director
Bureau of Water Resources

ecc: MassDEP Drinking Water Program/WQA, program.director-dwp@mass.gov (no attachment)
Engineer: Matthew Ribeiro, AECOM Technical Services, Inc., matthew.ribeiro@aecom.com
Engineer: William Clunie, AECOM Technical Services, Inc., William.Clunie@aecom.com
MassDEP NERO DWP: Tatyana Karpenko, Melissa Balcourt

Regulatory Requirement and Criteria

The Massachusetts Drinking Water Regulations pursuant to 310 CMR 22.04, require all Public Water Systems (PWS) to obtain Department approval for any proposed substantial modifications. As criteria for approval, the PWS must demonstrate that the facilities are in compliance with the Massachusetts Drinking Water Regulations (the Regulations) pursuant to 310 CMR 22.00, and MassDEP's Guidelines and Policies for Public Water Supplies (the Guidelines). The following presents background information relating to the project, a summary of the permit application, other submittals and correspondence related to the permit; and, a summary of the proposed modifications.

Application Summary

On April 15, 2024, the Department received a permit application from the Salem and Beverly Water Supply Board (SBWSB) for modifications to its water system. The permit submittal consisted of a transmittal form, a completed permit application form, a cover letter, and plans & specifications for the work. The permit application form provided for the project bears the stamp of Matthew Ribeiro, a Massachusetts registered Professional Engineer. Additional information and clarifications were provided by the Engineer in electronic messages dated May 31, June 6 and June 7, 2024.

PWS Background

The SBWSB is a community PWS that serves a population of 90,330 with 4 active sources, and 1 treatment facility. It provides all of its finished water to two consecutive PWS, the Beverly Water Department (PWS ID#3030000) and the Salem Water Department (PWS ID#3030000) directly from its treatment plant, so the SBWSB does not have any distribution system.

SBWSB's Water Treatment Plant (WTP) (Plant ID#3030001-01T) is a 24 million gallon per day (mgd) capacity treatment facility. The facility treats water from 4 sources: Wenham Lake (Source ID#3030001-01S), Longham Reservoir (Source ID#3030001-02S), Ipswich River (Source ID#3030001-03S) and Putnamville Reservoir (Source ID#3030001-04S). The WTP provides conventional treatment for the source water. Treatment processes at the facility include rapid mix, flocculation, sedimentation, rapid sand filtration, and primary disinfection. Chemicals used as part of the treatment process include aluminum sulfate, poly-aluminum chloride, sodium phosphate, powdered activated carbon, sodium hypochlorite, quick lime, and hydrofluorocilicic acid.

Project Summary & Description of Proposed Modifications

As outlined in the submittal, SBWSB is proposing to modify some of the facilities and equipment at its WTP and at the Longham Reservoir and the Putnamville Reservoir. The submittal indicates that the proposed work is intended to address the immediate needs of the SBWSB. A description of the proposed modifications is outlined below.

1. WTP Improvements: At the WTP, the submittal indicates that the work consists of repairs and rehabilitation of the filters, replacement of some piping in the filter gallery, replacement and repair of the sedimentation basin equipment, installing a valve on the filter backwash drain pipe, replacement of the fluoride feed system, and replacement of the potassium permanganate system, as described below.

    a. Filter Repairs and Rehabilitation

i. Painting: The plans call for repainting the walls and ceiling of the filter room and sealing the walkways between filters.

ii. Media Replacement: The submittal indicates that the filter media will be replaced. The filters currently have an 8-inch layer of support gravel, a 10-inch layer of sand, and a 1-foot, 4-inch layer of anthracite. These layers will be replaced with a 1-foot, 5-inch layer of sand and a 2-foot, 3-inch layer of anthracite. The Engineer has confirmed that the new media will conform to the specifications of the existing media. While there will be an increase in the depth of media, the Engineer confirmed that the elevation of the top of the media will not change, as the change in underdrains will provide additional space for media, and that the distance between the top of the media and the filter trough will remain the same. Concerning any impacts of the increased media depth, the Engineer has confirmed that the increase will not cause any hydraulic issues, to include in the backwash process.

iii. Filter Trough Replacement: The submittal indicates that the filter troughs will be replaced in-kind.

iv. Filter Underdrain Replacement: As part of the filter rehabilitation, the existing underdrains will be replaced. The seven of the eight filters have Leopold clay tile underdrains, with a Triton style underdrain in the other filter. The submittal calls for the underdrains to be replaced with folded-plate type underdrains, with the underdrains to be constructed of stainless steel. The specifications also call for ports to be provided on the underdrains to allow for the connection of piping for an air scour system in the future.

v. Surface Wash System Replacement: As part of the work, the existing surface wash pump, piping, and sweeps will be replaced. The Engineer indicated that the replacement pump will be slightly larger than the existing pump, noting that the existing pump did not provide the flow rate called for in the original design. Otherwise, the replacement system will function the same as the existing system.

b. Filter Gallery Piping Modifications: Modifications in the filter gallery described in the submittal include installing new valves on the filter effluent piping that will allow for isolation of two filters at a time instead of four filters being isolated at a time, replacing the backwash supply pipe, along with the flow control valve, flow meter, and supply valves, and relocating the pre-clearwell chemical feed injectors for sodium hypochlorite, hydrofluosilicic acid, and phosphate.

c. Sedimentation Basin Equipment Repair & Replacement: The cover letter indicates that some of the sedimentation basin equipment has reached the end of its useful life and is need of replacement. The submittal calls for replacing the chain and wear shoes, the flights as needed, the dresser couplings on the sludge draw off piping, and any damaged valve stems and guides for the sludge valves.

d. Filter Backwash Drain Valve Installation: The plans indicate that a new valve will be installed on the filter backwash drain line. The cover letter notes that there is an existing valve on the drain line that has signs of failure. Since that valve is buried at a depth of 24 feet, the cover letter indicates that the existing valve will be left in place in an open position. To replace the functionality of the existing valve, a new valve will be installed further down-stream on the same line at a shallower depth.

e. Fluoride Feed System Replacement: The plans call for a new hydrofluosilicic acid (HFA) feed system to be installed, replacing the existing system.

i. Design Criteria: The submittal indicates that the target dose for the feed system is 0.7 mg/L (as fluoride). At an average flow rate of 12 million gallons per day (mgd), the submittal indicates that the estimated daily use is 28 gallons per day (gpd).

ii. System Components: Components of the system shown on the plans include a bulk tank, a day tank, chemical feed pumps, and chemical feed piping.

1. Bulk Tank: The plans provide for the installation of a 1,000-gallon bulk tank.

a. Location & Containment: The new tank will be located in the same room as the existing bulk tank. For containment, the plans provide for the construction of new concrete containment walls along the perimeter of the existing room. Details indicate that the containment walls will be 25 inches high and 8 inches wide and will be coated, with water-stops provided at the interface of the new walls and the existing floor.

b. Material: The specifications indicate that the tank will be constructed of high-density cross-linked polyethylene.

c. Fittings: Fittings provided for on the plans include a 3-inch diameter fill pipe, an 8-inch diameter vent, a fitting for the transfer pump return, a fitting for a level sensor, a fitting on the sidewall for an overflow, and a drain. The specifications also indicate that a covered manway will be provided on the tank dome for access to the tank interior.

d. Piping: Piping for the bulk tank shown on the plans includes piping for vents, overflow, and filling the tank. The plans indicate that the piping associated with the bulk tank will be PVC pipe.

i. Vent: The plans indicate that the vent pipe will exit the building through the side wall. A detail indicates that the vent will terminate with the opening facing downward and provided with a screen.

ii. Overflow: For the overflow, the plans indicate that the overflow will be a 3-inch diameter pipe, with the inlet for the overflow on the sidewall of the tank. The plans show that the overflow pipe will be brought down along the side of the tank, and the discharge will be located inside the containment area.

iii. Outlet & Drain: The plans provide for a capped drain and valve on the tank outlet piping.

e. Volume Measurement: To measure the amount of chemical in the tank, the plans provide for a fitting for a level sensor on the tank. To visually measure the liquid level, the specifications provide for a sight tube with graduation labels to be installed on the tank.

f. Fill Station & Piping: To fill the bulk tank, the plans indicate that the new tank will be connected to the fill pipe for the existing tank. The plans do not call for the existing fill station to be modified.

2. Day Tanks and Appurtenant Equipment: The plans indicate that a 100-gallon capacity day tank will be provided for the system, with the tank and associated equipment described below.

   a. Location & Containment: The plans indicate that the new day tank will be located within the new containment area adjacent to the new bulk tank.

   b. Material: The specifications indicate that the tank will be constructed of high-density cross-linked polyethylene.

   c. Cover, Fittings and Piping: The specifications indicate that the day tank will be provided with a cover. Fittings for day tank shown on the plans include a vent, which is shown as having a separate outlet from the bulk tank vent, an overflow, a fill pipe, a drain, and a level instrument. Additionally, the plans indicate that holes for stilling wells for the suction tubing are provided in the cover. The plans indicate that the piping associated with the day tanks will be PVC piping.

   d. Transfer Pumps & Piping: To fill the day tank, the plans provide for the installation of a transfer pump. The specifications indicate that the transfer pump will have a rated capacity of 25 gpm, which the Engineer has indicated will not result in an excessive time needed to refill the tank, and that the operation of the pump will be controlled through a control panel located adjacent to the containment area. The control description included in the specifications indicates that the pump will operate until the liquid level reaches a high-level switch in the day tank. The plans show that the pipe from the transfer pump will extend above the height of the bulk tank, with a return line that runs to the top of the bulk tank that will serve as a siphon break.

   e. Volume measurement: To measure the amount of chemical in the tank, the plans provide for a weight scale. To visually measure the liquid level, the Engineer has indicated that the tank walls will be translucent so that the liquid level can be seen.

3. Chemical Feed Pumps & Appurtenances

   a. The plans indicate that two new chemical feed pumps will be installed. The plans indicate that the feed pumps will be installed on a table within the containment area.

   b. The pump schedule on the plans indicates that the chemical feed pumps will be peristaltic type pumps with a capacity of up to 5.9 gallons per hour (gph). The specifications note that the chemical feed pumps will be capable of operating at variable output based on an input signal.

   c. To power the chemical feed pumps, the Engineer has clarified that the pumps will be hard-wired.

d. To calibrate the chemical feed pumps, the plans indicate that a calibration column will be installed on the suction piping, with valves provided to allow each feed pump to be calibrated.

e. The plans provide for a new control panel for the chemical feed pumps, with the control panel shown as located inside the containment area. The Engineer has confirmed that the control panel will allow the pumps to be set to Off or to Remote, with the PLC controlling the operation of the pumps, and that the PLC will not allow the pumps to operate when there is no flow of water. The Engineer has also confirmed that the speed of the feed pumps will be based on the flow of the filtered water, and that there is an existing fluoride analyzer that has an alarm if an excessive fluoride residual is detected.

4. Chemical Feed Piping & Appurtenances:

a. The plans indicate that the chemical feed system piping will consist of PVC pipe.

b. Appurtenances provided for on the plans include valves to allow individual feed pumps to be taken out of service, a pressure gage, pressure relief valves, which the plans indicate will discharge back to the individual pump suction lines, back pressure valve, and injection assemblies. The Engineer has clarified that there will be four injection points in the filter effluent piping for adding fluoride, with two of the points active at any time.

f. Potassium Permanganate System Replacement: The submittal calls for replacing the existing potassium permanganate feed system with a new feed system. The new system will also use chemical delivered as a solid and fed as a solution. The new feed system will inject the potassium permanganate solution only in the raw water vault, and the other injection points, which the cover letter indicates were never used, will be abandoned.

i. Design Criteria: The submittal indicates that the target dose range for the feed system is between 0.2 and 5 mg/L, and that the estimated average daily use will be 17 gallons per hour (gph), based on a three percent solution strength.

ii. System Components: The submittal indicates that the new potassium permanganate feed system will consist of a dry feeder skid, a metering pump skid, the piping and injectors, and the controls. The plans indicate that the new system will be located on the upper level, adjacent to the sodium bisulfite system, with the plans also showing that the system will be located within a 6-inch high bermed area. The components of the new system are described below.

1. Dry Feeder Skid: The submittal indicates that the dry feeder skid will consist of a loading bin with dust collector, a hopper, a volumetric feeder, which will include a vibrator, feeder screw, and weight scale, and a 34-gallon mixing tank with a motorized mixer. The plans indicate that the water for the mixer will be connected to the process water system, which SBWSB has confirmed has adequate backflow protection. The specifications indicate that the dry feeder system will operate on a batch basis, with the system capable of preparing a batch of solution based on liquid levels in the mixing tank.

2. Metering Pump Skid: The submittal indicates that the metering pump skid will consist of the metering pumps and associated piping and appurtenances.

    a. Metering Pumps: The pump schedule on the plans indicate that the chemical feed pumps will be diaphragm type pumps, with a capacity of up to 50 gph. The specifications indicate that feed pumps speed will be set based on the raw water flow rate.

    b. Piping & Appurtenances: Appurtenances provided for on the plans include a strainer, valves to allow individual feed pumps to be taken out of service, a pressure gage, pressure relief valves, which the plans indicate will discharge back to the suction line, and back pressure valve. The plans also provide for a calibration column to be provided on the pump suction line.

3. Piping & Injectors: The plans indicate that the feed pumps will connect to an existing feed line connected to injectors located in the raw water meter vault which is located outside of the main building, with the plans showing that the feed pipe is located within an existing pipe chase.

4. Controls: The specifications call for a new control panel to be provided for the new potassium permanganate feed system. The plans indicate that the new control panel will be located adjacent to the rest of new feed system. The specifications indicate that the panel will include switches for operating each of the motors and other devices included as part of the system as well as lights for indicating the status of the mechanical equipment.

2. At the Putnamville Reservoir, the work called for in the submittal includes the demolition of the gatehouse superstructure, and installing a new concrete slab, security fencing, access hatches, and platforms, modifying the valve operators, and replacing the valve supports.

3. At the Longham Reservoir, the work described in the submittal includes replacing the existing bar rack, installing a new flow meter, and removing an existing valve.

    a. Bar Rack Replacement: The plans indicate that the existing gate house has a removable bar rack. The cover letter states that the existing bar rack is corroded, and that the existing bar rack will be replaced in-kind, with the new bar rack consisting of 6 sections constructed of stainless steel.

    b. Flow Meter Installation: The submittal calls for installing a new flow meter that will be used to measure the volume of water conveyed to Wenham Lake. The plans indicate that the meter will be installed in an underground, concrete vault. The plans show that the piping associated with the flow meter and vault includes two gate valves to isolate the vault, an air relief valve, and a magnetic flow meter, with the flow meter powered by a battery stored in a panel located adjacent to the vault. To prevent flooding, the plans provide for a sump and flood alarm, with the Engineer clarifying that any water in the vault will be removed by pumping. The plans also call for a vent to be provided for the vault. The plans show that the vault roof will be 1.5 feet above the surrounding grade. Access into the vault includes a personnel access hatch and a hatch for removing equipment; the Engineer has clarified that these hatches will be provided with locking hardware.

c. Valve Removal: As part of the work, the submittal calls for removing an existing gate valve that is no longer operable and stuck in a partially open position. The valves being installed at the flow meter vault will replace the functionality of the valve being removed.

Approval & Conditions

Pursuant to the Department's authority under 310 CMR 22.04(7) to require that each supplier of water operate and maintain its system in a manner that ensures the delivery of safe drinking water to consumers, this permit is approved subject to the following conditions:

1. **Changes/Modifications:** Construction shall be completed in strict accordance with the submitted plans. Any changes made to the submitted plans or specifications affecting the capacity, hydraulic conditions, operating units, functioning of water treatment processes or quality of water to be delivered, shall receive prior written approval of the Department's Northeast Regional Office Drinking Water Program. Any such changes made without prior approval shall constitute a violation of the Regulations, which may result in legal actions by MassDEP including revocation of this permit, criminal prosecution, court-imposed penalties or civil administrative penalties assessed by MassDEP.

2. **Final Plans and Specifications:** The Engineer indicated that the plans and specifications provided were not the final documents. A copy of the final plans and specifications, with appropriate professional engineer stamps, shall be provided to the Department at least 14 days prior to construction, along with a letter detailing all of the differences between those documents and the documents submitted for approval. As previously noted, the Regulations require Department approval prior to any construction of substantial modifications to approved plans.

3. **Additional Requirements:** As a condition of approval, the applicant shall incorporate the following features into the modifications:

   a. Chemical Tank & Piping Labeling & Markings: All piping shall be color coded and labeled as called for in the Guidelines. Labels shall be provided on the chemical tanks as called for in the Guidelines.

   b. Chemical Tank Overflows: As noted, the work includes installing a bulk tank with an overflow pipe. The Guidelines have specific requirements for the discharge of a chemical tank overflow, to include requirements for the distance above the floor and for providing a means to prevent splashing of chemical outside of the containment area. The Engineer indicated that, while not shown on the plans, the overflow discharge will conform to those requirements. This approval is being granted on the condition that the overflow pipe discharges will be installed as called for in the Guidelines.

   c. Chemical Tank Drains: The plans provide for valved drains. The Guidelines call for caps to be provided on chemical tank drains to prevent inadvertent discharges. The Engineer indicated that caps will be provided on the drain outlets, and that the caps will be secured. This approval is being granted on the condition that caps will be installed on the drain outlets as called for in the Guidelines.

   d. HFA Bulk Tank Fill Line Valve: As noted, the existing fill line will be used for filling the new HFA tank. The Guidelines call for a valve to be provided on chemical tank fill lines, with the valve installed within the treatment building. In a sanitary survey, the Department noted that

there was no valve on the fill line and called for SBWSB to add a line when it made modification to the fluoride system. The Engineer indicated that a valve would be provided on the line as part of the work. This approval is being granted on the condition that a valve will be installed on the fill pipe as called for in the Guidelines.

e. Day Tank Alarm & Overflow Levels: As noted, the plans call for a 100-gallon capacity day tank for the HFA feed system. The Guidelines allow for day tanks to have a capacity of up to 60 hours of chemical based on average use. Based on the estimated usage provided in the submittal, 100 gallons exceeds the amount that would be used in 60 hours. The Engineer clarified that the entire tank would not be used, with the overflow and alarm level set so that the actual capacity of the tank would be equal to the amount used in 60 hours. This approval is being granted on the condition that the overflows and alarm levels are set such that the capacity of the day tank will not exceed the amount used in 60 hours as called for in the Guidelines.

f. Day Tank Visual Means for Determining Liquid Level: The day tank will be constructed of high-density polyethylene. The Guidelines call for all chemical tanks to be provided with a means to visually observe liquid level that is calibrated. As noted, the Engineer has indicated that the tank walls will be translucent so that the liquid level can be seen. To ensure that the liquid level in the tank is visible, SBWSB shall ensure that adequate lighting is available and that there is a means to visually measure the volume of liquid in the day tank.

g. Chemical Feed System Controls: Because the plans include a feed system for HFA, all interlocks, alarms, and other controls shall be installed in accordance with the requirements of the Chemical Safety Control Strategy.

h. Analyzer Installation: As noted, SBWSB has indicated that it will be relocating its continuous turbidimeters to prevent the work from interfering with its ability to monitor. The analyzers, as well as the sample lines, shall be installed in accordance with the manufacturer's recommendations and best industry practices.

4. **Operation During Construction:** The work will be performed while the facility is in operation.

a. At all times, the existing facilities shall be operated as necessary to comply with the requirements of the Massachusetts Drinking Water Regulations and prior approvals.

b. SBWSB shall ensure that the work is performed in a manner that minimizes any impact to the operation of the existing facilities and does not impart any contaminants into the water being treated.

c. The submittal indicates that the work will cause interruptions in the availability of some treatment process units. SBWSB shall ensure that any interruptions are minimized so that its consecutive systems are able to maintain service to their customers.

d. Special Requirements Related to the Temporary Termination of Fluoride Addition: The submittal indicates that SBWSB will be stopping the addition of fluoride while some of the work is being done. Prior to stopping the fluoride feed, SBWSB shall notify the Boards of Health of its consecutive systems, communicating the background and nature of the fluoridation disruption, providing a copy of the notification to the Department of Public Health at oral.health@mass.gov and to the Department at program.director-dwp@mass.gov. SBWSB shall also include

information in its CCR as outlined in the document Preparing Your Drinking Water Consumer Confidence Report (mass.gov).

e. Ventilation & Protection of Adjacent Treatment Units During Work: As noted, the work involves painting of portions of the facility. This work will be conducted adjacent to operating treatment units, specifically the filters, which are uncovered. As a condition of this approval, adequate measures shall be implemented to ensure that the work does not impart any contaminants into the water being treated. These measures shall include the installation of barriers and encapsulation as needed, as well as providing adequate ventilation of the work areas. Additionally, quality control measures shall be implemented to ensure that the measures used to protect the water being treated are effective. These quality control measures shall include collecting samples to verify that no contaminants were imparted into the water being treated.

f. Protection of Instrumentation During Work: Some the work will occur adjacent to or on piping connected to instruments and sample lines used for compliance monitoring. This work could cause vibrations or otherwise interfere with the ability to collect representative samples. To address this concern, SBWSB has indicated that it will be relocating instruments so that they are not attached to the piping. All instruments shall be installed in accordance with the manufacturer's recommendations. Additionally, SBWSB shall implement sufficient controls on the work to ensure that it is able to continue to collect representative samples and meet all monitoring requirements.

5. **Environmental Impacts:** The work may involve draining of water from the new and existing tanks, and the demolition work will generate wastes.

   a. Thorough consideration shall be given to the impact of discharge of highly chlorinated water to the environment. If there is any possibility that chlorinated discharge will cause damage to the environment, a neutralizing chemical, as listed in AWWA Standard C-655, shall be applied to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. Where necessary, federal, state, and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water.

   b. The existing treatment process units may contain sediments and other residuals. All sediments and residuals shall be properly managed and disposed of.

   c. The work includes demolition of existing facilities and equipment. This work could generate different types of wastes, to include residual paint substances and asbestos containing materials. All wastes generated by the work shall be properly managed and disposed of in accordance with all applicable laws and regulations.

6. **Use of Approved Materials, Equipment and Technology:**

   a. No chemicals, drinking water additives, or treatment devices or equipment that come into direct contact with drinking water, shall be installed unless such devices or equipment have received the prior written approval of MassDEP. All materials shall be suitable for use in potable water and meet applicable NSF standards.

   b. The installation and use of any materials, treatment processes and equipment shall conform to the conditions of any New Technology approval and the manufacturer's recommendations.

7. **Compliance with Other Approvals:** The applicant shall obtain all required local, State, and Federal approvals as condition of this approval. All work shall be completed in accordance with applicable laws, codes and regulations.

8. **Water Treatment Chemicals:** All chemicals added to the drinking water shall be approved for use in Massachusetts and comply with NSF Standard 61 and AWWA specifications. A properly certified operator shall be present when any deliveries of chemicals are made and shall verify that the proper chemical has been received and delivered to the correct storage area. A copy of the Safety Data Sheets (SDS) for each chemical stored and the recommended Personal Protective Equipment (PPE) shall be available at all times at the facility.

9. **Water Quality Testing:** As necessary, samples of the finished water from the completed water treatment facility and components shall be collected and analyzed for any applicable contaminants. The applicant's engineer shall provide a proposed sampling schedule to meet this requirement prior to the request for a Final Inspection. Copies of the test reports shall be provided to the Department as part of the request for final approval. All sampling and analysis shall conform to the applicable portion of the Regulations.

10. **Disinfection of Facilities and Equipment:** Prior to being placed in service, all facilities in contact with filtered water as well as the filters and media shall be disinfected as required in the Guidelines and in accordance with AWWA standards. To determine adequate disinfection, samples from the completed facilities shall be collected and analyzed for coliform bacteria; samples shall be free of any coliforms to demonstrate adequate disinfection. **The samples shall be collected no earlier than seven calendar days prior to when the facilities are to be placed on-line, unless otherwise approved by the Department.** All samples shall be collected in accordance with good operating practices and analyzed by a laboratory certified by MassDEP for the analysis of coliform bacteria. All lab reports shall be prepared on MassDEP approved forms. Copies of the laboratory analysis shall be provided to MassDEP for review and approval prior to the final inspection.

11. **Final Approval & Inspection:** When any of the facilities are proposed to be placed into service, a Request for a Final Inspection shall be submitted to this office.

    a. The applicant shall not operate any of the facilities or treatment units until MassDEP grants its approval to place the facilities into operation.

    b. A Request for a Final Inspection shall be submitted to this office in accordance with MassDEP Policy 88-19 and the Guidelines.

        1. The request shall include a Determination of Compliance prepared by the consulting engineer or water system representative that inspected the work that certifies the following:

            (1) the facilities and equipment to be placed into service are fully operational, tested, and ready to be placed on-line,

            (2) the work was completed in accordance with MassDEP's approval,

            (3) all conditions of the approval letter have been met,

            (4) all materials, equipment and technology have received approval for use in drinking water,

(5) all chemicals meet the requirements of the Regulations & Guidelines,

(6) the operations and maintenance procedures for the new equipment & facilities have been prepared,

(7) the operators have been trained and are ready to begin operating the equipment & facilities; and,

(8) all alarms have been tested and are operating properly.

2. Along with the letter, the following documents shall be provided.

(1) If the work is not entirely complete, a list of any remaining work items (the punch list) shall be provided along with an opinion on the ability of the facilities and equipment to operate in full accordance with Regulations and Guidelines without being fully completed as approved. Any recommended mitigation measures for any of the items that are not complete should be noted.

(2) A copy of any water quality reports needed to demonstrate that the work did not impart any contaminants to the water being treated, and a statement that the proposed treatment operated as intended.

c. After a review of the letter and other documentation, MassDEP will then notify the applicant to arrange a final inspection unless MassDEP determines such an inspection is not necessary. During the final inspection, the applicant shall demonstrate the proper operation of the facility and equipment, with the facility running to waste unless otherwise approved by the Department.

d. The Department will issue a Final Approval of the work once all of the work has been completed and the operation of the work has been demonstrated. The Department may allow the facilities or equipment to be placed into operation on a demonstration basis provided that the operation of the facilities and/or equipment do not create a health concern or impede the ability to fully comply with the Massachusetts Drinking Water Regulations and Guidelines.

12. Operation and Maintenance (O&M):

a. The O&M Manual for the facility shall be revised to include the operations and maintenance of the new facilities and equipment.

1. As called for in the Guidelines, calibration curves shall be prepared for all chemical feed pumps and kept available at the facility. Additionally, the O&M Manual should address the following items related to the operation and maintenance of the chemical feed systems: dose setting, monitoring, chemical delivery (to include assay), chemical handling & safety, monitoring associated with the use of the system, chemical use measurements, and testing of any required interlocks and alarms.

2. The O&M Manual shall include a stand-alone schedule of inspections, testing, and preventative maintenance recommendations for all components of the system. That schedule shall incorporate the recommendations of the equipment manufacturer(s) and the design engineer.

b. Once the O&M manual has been prepared in accordance with these requirements, the applicant shall operate the facilities in accordance with the procedures and complete all recommended maintenance and inspections.

c. Disinfection Determination: As noted, the work will include modifying the location where chlorine is injected. The existing injection point is used for primary disinfection. This change in location of the where the disinfectant used for primary disinfection shall be documented in the facility O&M manual/disinfection monitoring plan along with the associated change in disinfection contact time. Once the change is completed, SBWSB shall incorporate the changes in its evaluation of primary disinfection.

13. **Emergency Planning:** The facilities shall be incorporated in the system's emergency response planning. A revised Emergency Response Plan (ERP) that meets the requirements of 310 CMR 22.04(13) shall be prepared prior to final approval of the completed facility and a revised ERP Checklist shall be submitted to MassDEP with the Request for Final Inspection.

14. **Security:** The Department recommends assessing the vulnerability of the facilities and equipment and including the results of the assessment in its security planning.

15. **Maintenance of Records:** The applicant/operator shall maintain a copy of this letter, the complete permit application and all approvals for as long as the facilities described herein are in service.

Attachment A-2

To Addendum No. 2

HAZARDOUS MATERIALS INSPECTION REPORT PUTNAMVILLE RESEVOIR GATEHOUSE LAKEVEIW AVENUE/LOCUST STREET DANVERS, MASSACHUSETTS

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

HAZARDOUS MATERIALS INSPECTION REPORT
PUTNAMVILLE RESEVOIR GATEHOUSE
LAKEVEIW AVENUE/LOCUST STREET
DANVERS, MASSACHUSETTS

PREPARED FOR:

BAYSIDE ENGINEERING INC.
ATTN: MR. WILLIAM A. CAPONE, P.E.
SENIOR STRUCTURAL ENGINEER
600 UNICORN PARK DRIVE
WOBURN, MASSACHUSETTS

PREPARED BY:

ATC GROUP SERVICES, LLC
10 STATE STREET, SUITE 100
WOBURN, MASSACHUSETTS 01801

ATC PROJECT # 6000004170

December 21, 2018

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SUMMARY REPORT
FOR
HAZARDOUS MATERIALS INSPECTION

PROJECT NAME:	Putnamville Reservoir Gatehouse
LOCATION:	Lakeville Avenue/Locust Street, Danvers, Massachusetts
CONSULTANT:	ATC Group Services, LLC
PROJECT INSPECTOR:	Logan Fitzgerald (AI-900711)
ATC PROJECT NO.:	6000004170
DATES OF INSPECTIONL:	December 4th, 2018

EXECUTIVE SUMMARY

ATC Group Services, LLC (ATC) was retained by Bayside Engineering Inc., to perform a hazardous building materials inspection in support of the planned renovations project at the Putnamville Reservoir Gatehouse, located at Lakeview Avenue and Locust Street, in Danvers, Massachusetts. The hazardous material inspection was to determine the suspect building materials that may be impacted by the proposed renovations as indicated by Bayside Engineering. The inspection was performed in accordance with ATC Proposal 060-2018-0458.

ATC's scope of work for the hazardous materials building inspection included a survey for asbestos containing materials (ACM), lead paint, and sampling for the presence of PCBs in building materials such as caulking, glazing and sealants. ATC's scope of work also included a confined space entry provided by Bayside Engineering.

All samples collected from suspect ACM, Lead, and PCB were delivered to a fully accredited analytical laboratory for asbestos, Lead, and PCB analysis.

1.1 Asbestos

Section 2.0 discusses the ACM survey and sampling methodology. This survey involved a visual inspection, inventory, and bulk sampling of suspect ACM, including locating and quantifying the identified ACM. ATC performed the inspection throughout all Building areas set forth by Bayside Engineering. The survey included all accessible interior and exterior areas.

The asbestos survey was performed by a Massachusetts Division of Labor Standards (DLS)-certified Asbestos Inspector Logan Fitzgerald (AI-900711) on December 4th, 2018. A total of twelve (12) samples of suspect ACM were collected with eleven (11) analyzed to determine asbestos content. The ATC inspector performed both the visual inspection and bulk sampling in the Building according to methods outlined in the U.S. Environmental Protection Agency (EPA) guidance document titled, "Guidance for Controlling Asbestos-Containing Materials in Buildings" (Document No. 560/5-85/024). The Polarized Light Microscopy (PLM) bulk sample analytical results are included in Appendix A.

1.2 Lead Determination

ATC performed a lead paint determination on representative interior painted surfaces that will be impacted by the proposed renovation project. The lead determination was performed by Logan Fitzgerald on December 4th, 2018.

Results of the lead determination indicate that lead is present in the red paint on the entry door as well as the black paint on the structural steel beam on the interior of the gatehouse. Note that contractors performing work at the building where the painted surfaces will be disturbed must comply with the Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62, Lead in Construction regulations. Additional waste disposal requirements may apply in accordance with EPA and Massachusetts Department of Environmental Protection (MassDEP) regulations. Table 3 in Section 3 presents the results of the lead determination.

1.3 PCB's in Building Materials Survey

ATC performed a survey of sealants on the interior and exterior of the building suspected to contain PCBs that may be impacted by the proposed renovation project. The survey was conducted on December 4th, 2018 by a qualified and experienced environmental technician. Sealants such as caulk sealants and glazing compound that will be disturbed during the proposed renovation project activities were sampled and submitted to a laboratory for PCB analysis using Soxhlet extraction and EPA Method 8082.

The results of the PCB sealant survey are provided in Section 5.0. PCB was not detected in the one sample of caulking material identified and collected by ATC.

Sealant materials containing <1 ppm PCBs can be classified as regular demolition debris and are not regulated under TSCA.

Limitations

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with customary principles and practices in the field 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.

Environmental evaluations are limited in the sense that conclusions and recommendations are developed and information obtained from limited research and secondary sources. Except as set forth in this report, ATC has made no independent investigations as to the accuracy or completeness of the information derived from the secondary sources and personal interviews and has presumed that such information was accurate and complete.

This report is intended for the sole use of Bayside Engineering Inc. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations, is at risk of said user.

CERIFICATION OF RESULTS

This report has been prepared for the exclusive use of Bayside Engineering. Photocopying of this document by parties other than those designated by Bayside Engineering, or use of this document for purposes other than intended, is prohibited.

Sincerely,

ATC Group Services, LLC

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2.0 ASBESTOS CONTAINING MATERIALS SURVEY

2.1 Sampling Methodology

The survey was performed by Mr. Logan Fitzgerald, Massachusetts DLS-certified Asbestos Inspector (License No. AI-900711), on December 4th, 2018. Bulk samples, representing individual homogenous areas of suspect materials, were collected in a randomly distributed manner, in accordance with the methods outlined below. The laboratory analysis report can be found in Appendix A of this report.

Building materials exist in the form of thermal systems insulation (TSI), surfacing materials, and miscellaneous materials.

The following generally illustrates the sampling strategy employed by ATC where feasible:

(a) Surfacing materials - In a randomly distributed manner, collect bulk samples of surfacing materials, representative of each homogeneous area, and not assumed to be ACM.

- (1) Collect at least three bulk samples from each homogeneous area that is less than or equal to 1,000 ft^2.
- (2) Collect at least five bulk samples from each homogeneous area that is greater than 1,000 ft^2, but less than or equal to 5,000 ft^2.
- (3) Collect at least seven bulk samples from each homogeneous area that is greater than 5,000 ft^2.

(b) Thermal systems insulation.

- (1) In a randomly distributed manner, collect at a minimum, three (3) bulk samples of thermal systems insulation material, representative of each homogeneous area, and not assumed to be ACM.
- (2) Collect, at a minimum, one (1) bulk sample of patched thermal systems insulation, representative of each homogenous area, and not assumed to be ACM, providing the section of patch was less than 6 linear or square feet.
- (3) Collect, at a minimum, three (3) representative bulk samples of each insulated mechanical system not assumed to be ACM, including, but not limited to cementitious material used on pipe fittings such as tees, elbows, or valves. Representative sampling was conducted in a manner sufficient as to identify whether each homogenous area is either asbestos or non-asbestos containing.
- (4) Bulk samples are not required to be collected from any homogeneous area where the accredited asbestos inspector has determined that the thermal systems insulation is a non-suspect material (i.e., fiberglass, foam glass, rubber, or any other non-ACM).

(c) Miscellaneous materials - Collect, at a minimum, two (2) representative bulk sample of each miscellaneous material not assumed to be ACM, including, but not limited to ceiling tiles, floor tiles, associated floor tile mastic, roofing materials, waterproofing, etc. Representative sampling was conducted in a manner sufficient as to identify whether each homogenous area is either asbestos or non-asbestos containing.

2.2 Asbestos Containing Materials

ATC conducted the asbestos survey in representative areas, including accessible interior and exterior areas throughout the Gatehouse Building located at Lakeview Avenue and Locust Street in Danvers, Massachusetts. Appropriate efforts were made in representative areas of the building, to identify layers of flooring systems, as well as any suspect materials located within wall cavities, chases, and plenums. In consideration that the Building is scheduled for renovations, ATC performed limited exploratory demolition to uncover the presence of potentially hidden ACMs. Note that the scope of work did not include a disassembling of mechanical equipment or electrical gear, or performance exploratory demolition for materials located within wall cavities, chases, and plenums that may have suspect ACM internal components.

The following table presents a list of the identified, confirmed ACMs in the building, based upon laboratory analysis of samples. Note that an ACM is defined by the MassDEP as any material or product containing one percent or greater asbestos by weight. Asbestos-containing waste material (ACM) is defined as a material containing any amount of asbestos, including material detectable asbestos at less than 1% (i.e. trace).

Table 1: Summary of Identified ACM

Sample Number	Sample Location	Material	Estimated Quantity	Result
03 A, B	Roof	Black Built-up Roofing Material	500 SF	20% Chrysotile

SF = Square Feet

The following table presents a list of the suspect materials sampled in the building that were determined not to contain asbestos, based upon laboratory analysis of samples.

Table 2: Summary of Non-ACM

Material	Sample Location(s)
Black Waterproofing Mastic	Exterior behind Brick Façade
Black Mastic on Copper Capping	Exterior Roof Corners
Black Mastic Associated with Built-up Roofing Material[1]	Roof
Black Mastic Dripping Inside Gatehouse	Gatehouse Interior
Grey Caulking between Barrier and Gatehouse	Gatehouse Exterior

[1]Black Mastic Material is Associated with the Built-Up Roofing Material and should be considered asbestos-contaminated and handled and disposed of as ACM.

2.3 Analytical Method

Bulk samples of friable and non-friable suspect materials were analyzed by ProScience Analytical Services Inc. (EMSL) by means of the EPA-approved polarized light microscopy with dispersion staining (PLM/DS) method using the visual estimation technique for asbestos quantification. ProScience is fully accredited for bulk sample analysis under the National Voluntary Laboratory Accreditation Program (NVLAP), administered by the National Institute of Standards and Technology, and is also licensed by the Massachusetts DLS (License No. AA-000156). Bulk samples were analyzed for asbestos content using EPA Method 600/R-93/116. The visual estimation technique was used to quantify asbestos concentrations. The PLM/DS analytical method is modeled after 40 CFR Part 763, Subpart F, Appendix A: "Interim Method for the Determination of Asbestos in Bulk Insulation Samples".

2.4 Consideration for Hidden Materials

ATC conducted the asbestos survey in representative interior and exterior areas that may be impacted by the proposed renovation project as indicated by Bayside Engineering. Note that the scope of work did not include disassembling mechanical equipment or electrical gear.

ATC recommends that if a newly-identified suspect material has not been previously tested, it should be considered asbestos-containing unless bulk sampling reveals otherwise. Any suspect materials uncovered during future renovation/demolition activities, not readily identified as non-asbestos, should be assumed to be asbestos-containing, unless bulk sampling reveals otherwise.

2.5 Recommendations

ATC recommends that all identified ACM that may be impacted in the future be properly removed and disposed by a Massachusetts-licensed Asbestos Contractor prior to disturbance.

ATC recommends that precautions be taken to prevent unauthorized disturbance of ACM identified in this report.

ATC also recommends the following as part of the abatement process:

- Although the asbestos contractor is required to follow the requirements outlined in federal, state and local regulations regarding asbestos during any abatement project, ATC recommends the development of a project specification and the use of project oversight to ensure compliance with all applicable regulations as well as protect the interest of the client for all abatement work performed at the site. The project specification shall reference the regulations pertinent to each project, including those work procedures that shall be followed by asbestos abatement personnel.

- As part of each abatement contractor bidding process, a unit price schedule for the abatement of asbestos-containing materials should be established. The unit price schedule should include costs for those materials identified within this report, as well as those materials that may potentially be uncovered during renovation/demolition activities. Included should be unit prices for the removal of asbestos-containing materials (e.g., floor tile, floor tile mastic), as well as those non-asbestos-containing materials, which may be asbestos contaminated (i.e. carpeting, plywood, etc.).

- Project oversight can provide Bayside Engineering with on-site technical expertise during all phases of the abatement work. Project oversight provides a constant management of the abatement project to ensure that all identified asbestos-containing materials are removed in accordance with all applicable regulations and to prevent an asbestos fiber release. Tasks performed during project oversight should include periodic work inspections to ensure that all procedures employed by the abatement contractor are acceptable, and air monitoring around each work area to detect elevated asbestos fiber levels.

3.0 LEAD PAINT DETERMINATION

ATC performed a limited lead-containing paint determination on representative interior and exterior painted surfaces that may be impacted by the renovation project. The lead determination was performed by Mr. Logan Fitzgerald. Paint chip samples were submitted to ProScience Analytical Services Inc. for analysis in accordance with EPA method SW846—3050B/7000B. ProScience is an AIHA-LAP, LLC with lab ID number: 102754. The laboratory report can be found in Appendix C of this report.

3.1 Summary of Findings

The table below provides the results of the lead paint testing. The Flame AAS readings are in percent weight (%/weight).

As noted in the table, the red paint on the Entry Door, and the black paint on the steel beam inside the gatehouse contained detectable lead above the reporting limit of 0.014 percent weight (% by weight). Other painted surfaces contained detectable lead less than the reporting limit.

Table 3: Lead Paint Testing Results by SOP Based on SW846-7420/3051

Location	Component	Color	Flame AAS Results (PPM/% Weight)
Paint Chip Survey			
Entry Door	Red Paint on Door	Red	**7.26**
Interior Walls	Grey Paint on Concrete Walls	Grey	<RL
Inside Chamber	Black Paint on Steel Beam	Black	**1.67**
Inside Chamber	Black Paint on Steel Beam	Black	**3.95**
Inside Gatehouse	Black Paint on Steel Beam	Black	**3.97**

<RL – BELOW REPORTING LIMIT OF 0.014% WEIGHT.

3.2 Regulatory Implications and Regulations

The implications of lead paint existing in a non-residential building are related to the future use of the facility and the need to impact these painted surfaces during the demolition process.

OSHA does not acknowledge any quantitative threshold for a lead-based paint. Paint with a detectable amount of lead, regardless of the level, is recognized as a lead-containing paint. The possible exposure hazard to workers impacting these coated surfaces should be assessed, and contractors and their employees must adhere to the OSHA Lead in Construction standard found at 29 CFR 1926.62. Regardless of analytical results, OSHA still requires that personal exposure monitoring be conducted when appropriate to determine lead exposure, even for zero results as determined by any method. To fully comply with EPA regulations, sampling of demolition debris waste streams may be required, depending on the requirements of the receiving facility.

OSHA recognizes that construction type work on surfaces coated with lead-containing paint has a **potential** to expose workers to hazardous levels of lead and requires that appropriate safety and health measures be followed as stated in 29 CFR 1926.62. OSHA states that until the employer performs an exposure assessment and documents that employees are not exposed above the permissible exposure limit (PEL) of greater than 50 micrograms per cubic meter ($\mu g/m^3$) of air, the employer must treat employees as if they were exposed above the PEL for the following operations:

- Manual renovation and demolition of structures, manual scraping, manual sanding, and use of heat gun where lead-containing coatings or paints are present;
- Abrasive blasting;

- Power tool cleaning;
- Lead burning;
- Using lead-containing mortar or spray painting with lead-containing paint;
- Abrasive blasting, rivet busting, or welding, cutting, or burning on any structure where lead-containing coatings or paint are present;
- Cleanup activities where dry expendable abrasives are used; and
- Any other task the employer believes may cause exposure in excess of the PEL.

Work precautions include providing respiratory protection, protective work clothing and equipment, change areas, hand washing facilities, biological monitoring, and training until an exposure assessment has determined that the work activity will result in an exposure below the PEL. Additional requirements under this standard include a written compliance program as well as record keeping.

4.0 PCBs IN BUILDING MATERIALS SURVEY

The survey objective was to evaluate for the presence of PCB-containing sealants (i.e. various caulking and glazing compound materials) that would require special management as part of the proposed renovation project. Only materials that would be disturbed during the renovations were assessed. The survey did not include testing of other surrounding building materials (i.e. masonry surrounds, frames, sills, etc.) adjacent to the sealants. The survey was conducted on December 4th, 2018 by Mr. Logan Fitzgerald. The following is a summary of the survey field activities, analytical data and conclusions.

4.1 Overview of PCB-Containing Materials and Regulatory Requirements

PCBs are commonly present in building material sealants such as caulking and glazing compounds manufactured prior to July 1979. In general, the PCBs were used in these materials as plasticizers and/or flame retardants. EPA TSCA regulations stipulate procedures by which PCB-contaminated materials must be handled and disposed.

The management of PCB-containing materials is regulated by TSCA and associated 40 CFR §761 Regulations, as administered by the EPA. Depending upon PCB concentrations and source, sealants, paints, and building materials with detectable PCBs are classified under TSCA as either PCB Bulk Product Wastes, PCB Remediation Wastes, or Excluded PCB Products, as noted below:

- PCB Bulk Product Wastes: Materials manufactured with PCBs at concentrations ≥50 ppm are classified as a PCB Bulk Product Waste and require special management practices in accordance with TCSA (40 CFR § 761). All PCB Bulk Product Waste must be removed and disposed at a licensed facility which can accept PCB Bulk Product Wastes. PCB Bulk Product Waste is managed is accordance with 40 CFR 761.62 and most often under 761.62(b) – Disposal in solid waste landfills. This includes TSCA landfills and some non-TSCA landfills. Removal and disposal of PCB Bulk Product Waste in accordance with 40 CFR 761.62(b) does not require EPA approval.

- PCB Remediation Wastes: Materials that contain PCBs because they have been contaminated by nearby PCB Bulk Product Wastes are classified as a PCB Remediation Waste. These materials must be disposed at a licensed facility which can accept PCB Remediation Wastes, unless they are removed and disposed together with the nearby PCB Bulk Product Waste, in which case they too may be considered PCB Bulk Product Wastes. EPA approval is required if decontamination/treatment of PCB Remediation Wastes will occur on-site or if PCB Remediation Waste will remain on-site.

- Excluded PCB Products: Materials with PCBs at concentrations <50 ppm, if these levels are not due to contamination from sealants, paints or other materials that are considered a PCB Bulk Product Waste, are classified as an Excluded PCB Product. An Excluded PCB Product, as defined in 40 CFR 761.3, must also meet the following additional conditions:

    - The products or source of the products containing <50 ppm concentration PCBs were legally manufactured, processed, distributed in commerce, or used before October 1, 1984;
    - The products or source of the products containing <50 ppm concentrations PCBs were legally manufactured, processed, distributed in commerce, or used, i.e., pursuant to authority granted by EPA regulation, by exemption petition, by settlement agreement, or pursuant to other Agency-approved programs; and
    - The resulting PCB concentration (i.e. <50 ppm) is not a result of dilution, or leaks and spills of PCBs in concentrations >50 ppm.

    Excluded PCB Products may be managed by any permitted waste management or recycling facility as long as they are made aware that the material being sent to them contains PCBs and their permit allows them to accept this type of material. Many solid waste and recycling facilities cannot accept materials that contain PCBs ≥2 ppm. Workers handling Excluded PCB Products must also be made aware that these materials are present.

Sealants, as well as other building materials, with PCBs <1 ppm and not impacted by a PCB Bulk Product are not regulated under TSCA and may be managed as typical demolition debris.

The PCB classifications assigned to sampled materials at the Site are based upon the highest reported PCB concentration for each material, as required by TSCA.

4.2 Field Activities

ATC identified and collected bulk samples suspect sealant materials from the interior and exterior of the inspected areas of the Building for this project. Unique sealant materials were identified based upon setting (e.g. sealant use, building location, type of materials abutting sealant, etc.) and physical properties (e.g. color and texture).

Samples were collected using hand tools (i.e. utility knife, screwdriver, hammer, pliers, chisel, etc.) that were decontaminated with hexane and paper towels between samples. The samples were then transported under chain-of-custody to Con-Test Analytical Laboratory, Inc. (Con-Test) of East Longmeadow, Massachusetts, for PCB analysis. Samples were extracted following United States Environmental Protection Agency (EPA) Method 3540C for Soxhlet extraction and analyzed following EPA Method 8082 (PCB Aroclors).

4.3 Laboratory Analysis Results

The PCB bulk sample laboratory report is included in Appendix C.

Table 4: PCB Sealant Survey Summary

Sample ID	Sample Material	Material Location(s)	ACM	Total PCB Concentration	PCB Type
1	Caulking between Barrier and House	Gatehouse Exterior	No	ND (0.69)	None

ND = Not detected above the indicated laboratory detection limit ACM = Asbestos Containing Material

Quality Control/Quality Assurance Review

ATC reviewed the quality assurance/quality control (QA/QC) information presented in the laboratory analytical reports (Appendix C) to confirm that the data were of sufficient quality to support the recommendations and conclusions presented in this letter. As presented in the analytical laboratory reports not all analytical method QA/QC requirements were met for all samples. Specifically, ATC evaluated the QA/QC compliance issues as summarized below.

- A dilution was performed as part of the standard analytical procedure.

These QA/QC compliance variances are not considered to be significant and do not affect the conclusions and recommendations presented in this letter.

4.4 Conclusions

Based upon the data summarized above, ATC concluded that PCBs were not present in the caulking materials sampled.

APPENDIX A

ASBESTOS BULK SAMPLE ANALYSIS RESULTS BY PLM

ProScience Analytical Services, Inc

Bryan Thompson
ATC Group Services LLC - Woburn
10 State Street, Suite 100
Woburn, MA 01801

December 07, 2018

Dear Bryan Thompson,

The enclosed analytical results have been obtained by using EPA 600/R-93/116 or EPA 600/M4-82-020. Calibrated Visual Estimate (CVE) is used by ProScience for the determination of the percentage of asbestos and other components in the sample. Point Counting is recommended when the sample contains less than 10% asbestos by CVE. Friable materials found to be less than 1% by CVE are automatically point counted (400 points) at no additional charge. ProScience recommends further analysis by a gravimetric method for non-friable materials that are less than 1% by CVE.

The Quality Control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client. Unless otherwise indicated, all samples were received in acceptable condition.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of two months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested. This report may not be reproduced except in its entirety, without the permission of ProScience Analytical Services, Inc., Laboratory Director.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Sophetra Ken, Optical Asbestos Manager

Aimee Cormier, Laboratory Director

Enclosure: Version 2
LAB BATCH ID: B 113164 CLIENT PROJECT ID: N/A
Client Ref: Putnamville Reservoir Gatehouse, Danvers, MA
CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; NVLAP Lab Code 200090-0; RI ID # AAL-093; VT ID# AL016876

ProScience Analytical Services, Inc.

Client Name: ATC Group Services LLC - Woburn
PO #: N/A
Client Project #: N/A
Client Reference: Putnamville Reservoir Gatehouse, Danvers, MA
Method: EPA/600/R-93/116

Batch: B113164
Date Sampled: 12/4/2018
Date Received: 12/6/2018
Date Analyzed: 12/7/2018
Date of Report: 12/7/2018

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
01A	Black	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Black Waterproofing Mastic
Location: Exterior behind Brick Façade
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
01B	Black	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Black Waterproofing Mastic
Location: Exterior behind Brick Façade
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
02A	Black	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Black Mastic on Copper Capping
Location: Exterior Roof Corners
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
02B	Black	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Black Mastic on Copper Capping
Location: Exterior Roof Corners
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
03A	Black	20	0	0	0	0	0	10	0	0	0	0	0	70

Description: Black Built-up Roofing Material
Location: Roof
Comments:
Is asbestos present? Yes. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
03B		0	0	0	0	0	0	0	0	0	0	0	0	0

Description: Black Built-up Roofing Material
Location: Roof
Comments:
Analyzed: No

ProScience Analytical Services, Inc.

Client Name: ATC Group Services LLC - Woburn
PO #: N/A
Client Project #: N/A
Client Reference: Putnamville Reservoir Gatehouse, Danvers, MA
Method: EPA/600/R-93/116

Batch: B113164
Date Sampled: 12/4/2018
Date Received: 12/6/2018
Date Analyzed: 12/7/2018
Date of Report: 12/7/2018

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
04A	Black	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Black Mastic assoc. w/Built-up Roofing Material
Location: Roof
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
04B	Black	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Black Mastic assoc. w/Built-up Roofing Material
Location: Roof
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
05A	Black	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Black Mastic Dripping Inside Gatehouse
Location: Gatehouse Interior
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
05B	Black	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Black Mastic Dripping Inside Gatehouse
Location: Gatehouse Interior
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
06A	Multi	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Gray Caulking between Barrier and Gatehouse
Location: Gatehouse Exterior
Comments:
Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
06B	Multi	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Gray Caulking between Barrier and Gatehouse
Location: Gatehouse Exterior
Comments:
Is asbestos present? No. Analyzed: Yes

Asbestos Codes: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite
Non-Asbestos Codes: FBG = Fiberglass MNW = Mineral Wool CEL = Cellulose HAR = Hair SYN = Synthetic OTH = Other NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]).

* All results are in percentage.

Analyst: Patricia Weakley

ProScience Analytical Services, Inc. www.proscience.net

22 Cummings Park, Woburn, MA 01801 T: 781-935-3212 F: 781-932-4857 general@proscience.net

TAT (circle one): 3 Hours 6 Hours Same Day Next Day (2 Days) 3 Days 4-5 Days Other ______
TAT in bus. days - lab approval required for rush analysis

PASI Batch #: B113164

PLM Chain of Custody ver 4.2 Updated 8/10/11

Client: ATC Group Services
Address: 10 State Street Suite 100 Woburn, MA
Project #: PO:
Project Site: Putnamville Reservoir Gatehouse Danvers, MA
Contact:
Tel. / Fax #:
Email: Bryan.Thompson@atcgs.com and logan.fitzgerald@atcgs.com

Relinquished By: [signature] Date: 12/5/18
Received By: [signature] Date: 12/6/18 7:00am
# of Samples Received: 12 Analyzed:
Results: (email) fax verbal By: Date:
Stop on first positive: (Yes) / No
Special Instructions:
Analyst / Date: [signature] 12/7/18 QC by / Date: [signature] 12/7/18

Sample ID	Date Sampled	Description / Location	SSAPE	Color	Homogeneity	Texture	Friable	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non Fibrous
01A	12/4/18	Black waterproofing mastic / Exterior behind brick facade	Ø	BK	N	T	N																				100
01B	⊥	⊥ / ⊥	Ø	BK	N	T	N																				100
02A	⊥	Black mastic on copper capping / Exterior roof corners	Ø	BK	N	T	N																				100
02B	⊥	⊥ / ⊥	Ø	BK	N	T	N																				100
03A	⊥	Black built up roofing material / roof	Ø	BK	N	M I	N	WP	+	L	N		1.54	1.55°	20						I 10						70
03B	⊥	⊥ / ⊥ DNA																									

Comments: Birefringence L= less than .010, M= .011-.029, H= greater than .03: Microscope Olympus BH-2, Serial # circle 1- 242277, 228027, 236000, 230663 Lab uses the EPA or ELAP point count method as appropriate. SSAPE = Stereo Scope Asb. % Est.

Lab Sample IDs: To form a lab sample id use Batch # - Sample ID.

ProScience *Analytical Services, Inc.* www.proscience.net
22 Cummings Park, Woburn, MA 01801 T: 781-935-3212 F: 781-932-4857 general@proscience.net

TAT (circle one): 3 Hours 6 Hours Same Day Next Day | (2 Days) 3 Days 4-5 Days Other _____ | TAT in bus. days - lab approval required for rush analysis

PASI Batch # B113164

Client: ATC Group Services
Address: 10 State Street Suite 100 Woburn, MA
Project #: PO:
Project Site: Putnamville Reservoir Gatehouse Danvers, MA
Contact:
Tel. / Fax #:
Email: Ben.Thompson@atcgs.com and logan.fitzgerald@atcgs.com

PLM
Chain of Custody
ver 4.2 Updated 8/10/11

Relinquished By: Logan Fitz Date: 12/5/18
Received By: Date:
# of Samples Received: Analyzed:
Results: (email) fax verbal By: Date:
Stop on first positive: (Yes) / No
Special Instructions:
Analyst / Date: 12/7/18 QC by / Date: 12/7/18

Sample ID	Date Sampled	Description / Location	Stereo Scope: SSAPE	Color	Homogeneity	Texture	Friable	Optical Properties: Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ‖	⊥	Asbestos Percentage (%): Chrysotile	Amosite	Crocidolite	Tremolite	Anthophyllite	Actinolite	Non Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non Fibrous
04A	12/4/18	Black mastic assoc. w/ built up roofing material / Roof	Ø	B	K	N	T	N																			100
04B		⊥ / ⊥	Ø	B	K	N	T	N																			100
05A		Black mastic dripping inside Gatehouse / Gatehouse Interior	Ø	B	K	N	T	N																			100
05B		⊥ / ⊥	Ø	B	K	N	T	N																			100
06A		Gray caulking between barrier and Gatehouse / Gatehouse Exterior	Ø	M	C	N	P	SY																			100
06B		⊥ / ⊥	Ø	M	C	N	P	SY																			100

Comments: Birefringence L= less than .010, M= .011-.029, H= greater than .03; Microscope Olympus BH-2, Serial # circle 1- 242277, 229027, 235000, 230663 Lab uses the EPA or ELAP point count method as appropriate. SSAPE = Stereo Scope Asb. % Est.
Lab Sample IDs: To form a lab sample id use Batch # - Sample ID.

APPENDIX B

LEAD PAINT CHIP LABORATORY ANALYSIS RESULTS

ProScience Analytical Services, Inc.
22 Cummings Park, Woburn, MA 01801

Telephone: 781-935-3212
Facsimile: 781-932-4857
Email: chemistry@proscience.net

Laboratory Report

Contact: Bryan Thompson
Client: ATC Group Services, LLC
Address: 10 State St., Suite 100
Woburn, MA 01801

Batch #: C 297722
Date received: 12/6/2018
Date analyzed: 12/6/2018
Date of report: 12/6/2018

Project # N/A
P.O.# N/A
Project Site: Putnamville Reservoir Gatehouse
Danvers,MA

AIHA-LAP, LLC Lab ID 102754

Lead Analysis In Paint Using SOP Based on SW846-7420/3051
Results in weight percent on an "as received" weight basis

Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 614608	1	12/4/18	Gray Paint on Concrete Wall/Interior Walls	<RL	0.019	paint+plaster
C 614609	2	12/4/18	Red Paint on Door/Entry Door	7.26	0.018	
C 614610	3	12/4/18	Black Paint on Steel Beam/Inside Chamber	1.67	0.020	paint+rust
C 614611	4	12/4/18	Black Paint on Steel Beam/Inside Chamber	3.95	0.014	paint+rust
C 614612	5	12/4/18	Black Paint on Steel Beam/Inside Gatehouse	3.97	0.017	paint+rust

Simona Peavey, Tech. Manager Chemistry
Aimee Cormier, Lab Director

Unless otherwise indicated, all samples were received in acceptable condition.
All result apply only to the samples as received and are accurate to no more than three significant figures.
Unless otherwise indicated, all the quality control criteria for the method above have been met.
RL-Reporting Limit(%by weight) Note on units: mg/Kg is the same as ppm by weight.

ProScience Analytical Services, Inc.

Chemistry Chain of Custody Record

LABORATORY/HEADQUARTERS
22 Cummings Park, Woburn, MA 01801
T:781-935-3212 F:781-932-4857

www.proscience.net
general@proscience.net

☐ Rush/<6 Hours — Turn Around Time Requested

Same Day	Next Day	2 Day	3 Day	5 Days
☐	☐	☒	☐	☐

Client: ATC Group Services

Address — Street: 10 State Street - Suite 100 Woburn, MA

Town / State/Zip:

Project Site — Line 1: Putnamville Reservoir Gatehouse

Line 2: Danvers, MA

Project Number:

PO:

Contact:

Phone:

FAX:

Alt/Pager:

Bryn.Thompson@atcgs.com and logan.Fitzgerald@atcgs.com

☐ NELAC analysis

☐ ASTM E1792

TYPE OF ANALYSIS (circle)

DUST WIPES	PAINT (0.1 g)	SOIL (1 g)
AIR	TSP	TCLP (100g)
(min)	PM10	Other

Please use a separate form for each matrix.

Element: (Pb) Cd Cr As Hg — So Ag Ba Fe — gravimetric

Other (please specify under Comments)

☐ QC

For Laboratory Use

BATCH NUMBER: C 297722

FOR LABORATORY USE ONLY

Date and Time Sampled	Field I.D.	Sample Description/Location	Air Sampling Information: Start Time	End Time	Start Flowrate	End Flowrate	Volume (liters)	Wiped area: length (inch)	width (inch)	Area (sq in)	ANALYSIS: Weight (grams)	Dil'n	AA/ICP Reading	RESULT	Lab I.D.
12/4/18	01	Gray Paint on concrete wall / Interior walls													614600
	02	red Paint on Door / Entry door													01
	03	Black Paint on steel beam / Inside chamber													10
	04	Black Paint on steel beam / Inside Chamber													11
	05	Black Paint on steel beam / Inside Gatehouse													12

Relinquished By: Logan Fitzgerald — Date: 12/5/18 — Time: 5:00pm

Received By: — Date: 12/6/18 — Time: 7:00am

Comments:

ver 5.3

Field blanks are required for airs and wipes per the sampling method.
Proscience Analytical Services reserves the right to subcontract samples to an appropriately accredited laboratory when we are unable to perform the analysis in house.

APPENDIX C

PCB LABORATORY ANALYSIS RESULTS

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 13, 2018

Bryan Thompson
ATC Group Services LLC - Woburn
10 State Street, Suite 100
Woburn, MA 01801

Project Location: Putnamville Reservoir Gatehouse, Danvers, MA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 18L0238

Enclosed are results of analyses for samples received by the laboratory on December 6, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Emily Snyder

Emily E. Snyder
Project Manager

Table of Contents

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ATC Group Services LLC - Woburn
10 State Street, Suite 100
Woburn, MA 01801
ATTN: Bryan Thompson

REPORT DATE: 12/13/2018

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 18L0238

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Putnamville Reservoir Gatehouse, Danvers, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
01/Caulking between barrier and house	18L0238-01	Caulk		SW-846 8082A	

con-test®
ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

18L0238-01[01/Caulking between barrier and house]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Director of Operations

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Putnamville Reservoir Gatehouse, Sample Description: Work Order: 18L0238

Date Received: 12/6/2018

Field Sample #: 01/Caulking between barrier and house Sampled: 12/4/2018 17:00

Sample ID: 18L0238-01

Sample Matrix: Caulk

Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH
Aroclor-1221 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH
Aroclor-1232 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH
Aroclor-1242 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH
Aroclor-1248 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH
Aroclor-1254 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH
Aroclor-1260 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH
Aroclor-1262 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH
Aroclor-1268 [1]	ND	0.69	mg/Kg	4		SW-846 8082A	12/7/18	12/13/18 12:25	AYH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.2	30-150		12/13/18 12:25
Decachlorobiphenyl [2]	88.0	30-150		12/13/18 12:25
Tetrachloro-m-xylene [1]	88.3	30-150		12/13/18 12:25
Tetrachloro-m-xylene [2]	88.6	30-150		12/13/18 12:25

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
18L0238-01 [01/Caulking between barrier and house]	B218762	0.577	10.0	12/07/18

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B218762 - SW-846 3540C										
Blank (B218762-BLK1)				Prepared: 12/07/18 Analyzed: 12/11/18						
Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	*3.53*		mg/Kg	4.00		88.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.88*		mg/Kg	4.00		97.1	30-150			
Surrogate: Tetrachloro-m-xylene	*3.73*		mg/Kg	4.00		93.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.73*		mg/Kg	4.00		93.2	30-150			
LCS (B218762-BS1)				Prepared: 12/07/18 Analyzed: 12/11/18						
Aroclor-1016	3.4	0.20	mg/Kg	4.00		85.2	40-140			
Aroclor-1016 [2C]	3.6	0.20	mg/Kg	4.00		90.9	40-140			
Aroclor-1260	3.4	0.20	mg/Kg	4.00		84.5	40-140			
Aroclor-1260 [2C]	3.4	0.20	mg/Kg	4.00		84.4	40-140			
Surrogate: Decachlorobiphenyl	*3.54*		mg/Kg	4.00		88.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.96*		mg/Kg	4.00		99.1	30-150			
Surrogate: Tetrachloro-m-xylene	*3.75*		mg/Kg	4.00		93.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.72*		mg/Kg	4.00		92.9	30-150			
LCS Dup (B218762-BSD1)				Prepared: 12/07/18 Analyzed: 12/11/18						
Aroclor-1016	3.6	0.20	mg/Kg	4.00		89.7	40-140	5.13	30	
Aroclor-1016 [2C]	3.7	0.20	mg/Kg	4.00		92.4	40-140	1.57	30	
Aroclor-1260	3.4	0.20	mg/Kg	4.00		85.5	40-140	1.19	30	
Aroclor-1260 [2C]	3.4	0.20	mg/Kg	4.00		85.1	40-140	0.798	30	
Surrogate: Decachlorobiphenyl	*3.60*		mg/Kg	4.00		90.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.03*		mg/Kg	4.00		101	30-150			
Surrogate: Tetrachloro-m-xylene	*3.80*		mg/Kg	4.00		94.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.77*		mg/Kg	4.00		94.2	30-150			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B218762-BS1 Date(s) Analyzed: 12/11/2018 12/11/2018

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	3.4	
	2	0.000	0.000	0.000	3.6	5.7
Aroclor-1260	1	0.000	0.000	0.000	3.4	
	2	0.000	0.000	0.000	3.4	0.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B218762-BSD1 Date(s) Analyzed: 12/11/2018 12/11/2018

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	3.6	
	2	0.000	0.000	0.000	3.7	2.7
Aroclor-1260	1	0.000	0.000	0.000	3.4	
	2	0.000	0.000	0.000	3.4	0.0

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
O-32	A dilution was performed as part of the standard analytical procedure.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2019
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2019
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2019
NC-DW	North Carolina Department of Health	25703	07/31/2019

EES

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

1812038

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 1_03242017

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name: ATC Group Services
Address: 10 state street, suite 100 woburn MA
Phone: 781-932-9400
Project Name: Putnamville Reservoir Gatehouse Danvers, MA
Project Location:
Project Number:
Project Manager: Brian Thompson
Con-Test Quote Name/Number:
Invoice Recipient:
Sampled By: Logan Fitzgerald

Requested Turnaround Time
7-Day ☐ 10-Day ☐
Due Date: 5-day

RUSH Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: logan.fitzgerald@atcgs.com
Fax To #:

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	Matrix Code	Conc Code	PCB Soxhlet Extraction 8082	# of Containers	Preservation Code	Container Code
1	01/caulking between barrier and house	12/4/18	12/4/18		X	Soil	U	X	1	I	A

Dissolved Metals Samples:
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples:
○ Field Filtered
○ Lab to Filter

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

[3] **Container Codes:**
A = Amber Glass
G = Glass
P = Plastic
ST = Sterile
V = Vial
S = Summa Canister
T = Tedlar Bag
O = Other (please define)

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time: 12/6/18
Relinquished by: (signature)	Date/Time: 12/6/18 2:25 pm
Received by: (signature) 2.5	Date/Time: 12/6/18 14:25
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA: 0.5ppm
CT:
Other:

Special Requirements
☐ MA MCP Required
☐ MCP Certification Form Required
☐ CT RCP Required
☐ RCP Certification Form Required
☐ MA State DW Required
PWSID #

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www.contestlabs.com
NELAC and AIHA-LAP, LLC Accredited

Project Entity
☐ Government ☐ Municipality ☐ MWRA ☐ WRTA
☐ Federal ☐ 21 J ☐ School
☐ City ☐ Brownfield ☐ MBTA

Other
☐ Chromatogram
☐ AIHA-LAP, LLC

PCB ONLY
☐ Soxhlet
☐ Non Soxhlet

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Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client ATC

Received By NP Date 12/6/18 Time 14:25

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____

Direct from Sampling _____ Ambient _____ Melted Ice _____

By Gun # 1 Actual Temp - 2.5

Were samples within Temperature? 2-6°C T By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T

Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? F Who was notified? _____

Is there enough Volume? T

Is there Headspace where applicable? N/A MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? N/A Acid _____ Base _____

Vials	#	Contain	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	1
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

Attachment A-3

To Addendum No. 2

FILTER GALLERY LEAD BASED PAINT SAMPLE RESULTS

FILTER GALLERY LEAD BASED PAINT SAMPLE RESULTS

MARCH 10, 2020

ProScience Analytical Services, Inc.
Chemistry Chain of Custody Record

LABORATORY/HEADQUARTERS
22 Cummings Park, Woburn, MA 01801
T:781-935-3212 F:781-932-4857

www.proscience.net
general@proscience.net

☐ Rush/<6 Hours — Turn Around Time Requested

Same Day	Next Day	2 Day	3 Day	5 Days
☐	☐	☐	☐	☒

Client: Salem Beverly Water

Address — Street: 50 Arlington Ave
Town: Beverly, MA — State/Zip: 01915

Project Site — Line 1: WTP - Sample — Project Number:
Line 2: Bradley Perron — PO:

Contact: BPERRON@SBWSD.NET — Phone: 978-922-2600 — FAX: — All/Pager:

☐ NELAC analysis

TYPE OF ANALYSIS (circle)

DUST WIPES	PAINT (0.1 g)	SOIL (1 g)
AIR	TSP	TCLP (100g)
(min)	PM10	Other

Please use a separate form for each matrix.

Element ____ gravimetric
(Pb) Cd Cr As Fe
Se Ag Ba Hg
Other (please specify under Comments)

For Laboratory Use
BATCH NUMBER: C 302565

☐ QC

☐ ASTM E1792

FOR LABORATORY USE ONLY

Date and Time Sampled	Field I.D.	Sample Description/Location	Air Sampling Information: Start Time	End Time	Start Flowrate	End Flowrate	Volume (liters)	Wipe area: length (inch)	width (inch)	Area (sq in)	ANALYSIS: Weight (grams)	Dil'n	AA/ICP Reading	RESULT	Lab I.D.
3/10/2020	01	Blue paint on concrete													646239
	02	white paint on Brick													40
	03	OFF-white paint on concrete ceiling													41

Relinquished By: B. Perron — Date: 3/10/2020 — Time:
Received By: Paula Leavitt-Cole — Date: 3/10/20 — Time: 12:05

Comments:

ver 5.5

PAGE 1 OF 1

Field blanks are required for air and wipe samples per the sampling method and should be from the same source lot as was used for the collected field samples.
Proscience Analytical Services reserves the right to subcontract samples to an appropriately accredited laboratory when we are unable to perform the analysis in house.

A.P. - Office@SBWSB.NET Linda Vaughn

ProScience Analytical Services, Inc.
22 Cummings Park, Woburn, MA 01801

Telephone: 781-935-3212
Facsimile: 781-932-4857
Email: chemistry@proscience.net

Laboratory Report

Contact: Bradley Perron
Client: Salem Beverly Water
Address: 50 Arlington Ave
Beverly, MA 01915

Batch #: C 302565
Date received: 3/10/2020
Date analyzed: 3/10/2020
Date of report: 3/10/2020

Project # N/A
P.O.# N/A
Project Site: WTP-Sample

AIHA-LAP, LLC Lab ID 102754

Lead Analysis In Paint Using SOP Based on SW846-7000B/3051
Results in weight percent on an "as received" weight basis

Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 646239	1	3/10/20	Blue Paint on Concrete	0.22	0.013	paint+concrete
C 646240	2	3/10/20	White Paint on Brick	<RL	0.021	
C 646241	3	3/10/20	Off-White Paint on Concrete Ceiling	1.15	0.015	paint+skimcoat

Simona Peavey, Tech. Manager Chemistry
Aimee Cormier, Lab Director

Unless otherwise indicated, all samples were received in acceptable condition.
All results apply only to the samples tested and as received and are accurate to no more than three significant figures.
Unless otherwise indicated, all the quality control criteria for the method above have been met.
RL-Reporting Limit(%by weight) Note on units: mg/Kg is the same as ppm by weight.
RL-Reporting Limit; Defined as the lowest concentration the laboratory can accurately quantitate.

Please visit our website at www.proscience.net for the current accreditation status.

ProScience Analytical Services, Inc.
22 Cummings Park, Woburn, MA 01801

Telephone: 781-935-3212
Facsimile: 781-932-4857
Email: chemistry@proscience.net

Laboratory Report

Contact: Bradley Perron
Client: Salem Beverly Water
Address: 50 Arlington Ave
Beverly, MA 01915

Batch #: C 302565
Date received: 3/10/2020
Date analyzed: 3/10/2020
Date of report: 3/10/2020

Project # N/A
P.O.# N/A
Project Site: WTP-Sample

AIHA-LAP, LLC Lab ID 102754

Lead Analysis In Paint Using SOP Based on SW846-7000B/3051
Results in weight percent on an "as received" weight basis

Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
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C 646240	2	3/10/20	White Paint on Brick	<RL	0.021	
C 646241	3	3/10/20	Off-White Paint on Concrete Ceiling	1.15	0.015	paint+skimcoat

Simona Peavey, Tech. Manager Chemistry
Aimee Cormier, Lab Director

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RL-Reporting Limit; Defined as the lowest concentration the laboratory can accurately quantitate.

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