



ROANOKE COUNTY

FINANCE & MANAGEMENT SERVICES DEPARTMENT PURCHASING DIVISION

INVITATION FOR BID

IFB # 2023-033
Bent Mountain Center Roof Trim Replacement

OPENING DATE: September 22, 2022
OPENING TIME: 2:00 P.M.

The Invitation to Bid and related documents may be obtained during normal business hours from the Purchasing Division, at the Roanoke County Administration Building, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018. This document may be viewed and/or downloaded from the County of Roanoke Purchasing Division's website at <https://www.roanokecountyva.gov/bids.aspx>. If you have any problems accessing the documents, you may contact Purchasing at (540) 772-2061.

A non-mandatory pre-bid conference will be held at 2:00 PM on September 13, 2022 at the Bent Mountain Center at 10140 Tinsley Ln, Bent Mountain, VA 24059.

**THIS PUBLIC BODY DOES NOT DISCRIMINATE
AGAINST FAITH-BASED ORGANIZATIONS**

DATE of IFB: September 6, 2022

INVITATION FOR BID (IFB)

IFB No. 2023-033

Issue Date: September 6, 2022

Title: Bent Mountain Center Roof Trim Replacement

Issued By: **County of Roanoke**
Roanoke County Administration Building
Purchasing Division
5204 Bernard Drive, SW, Suite 300-F
Roanoke, VA 24018-0798
Phone (540) 772-2061

Email: nhuss@roanokecountyva.gov

Sealed Bids will be received on or before 2:00 P.M., September 22, 2022 for furnishing the services and/or items described herein. The time of receipt shall be determined by the time clock stamp in the Purchasing office.

All questions must be submitted before 5:00 p.m., **September 16, 2022**. If necessary, an addendum will be issued and posted to the County website on the Current Bids/RFP Requests tab at <https://www.roanokecountyva.gov/bids.aspx>.

If proposals are hand delivered or mailed, send directly to the Purchasing Division at the address listed above. If the Roanoke County Administration Building is closed for business at the time scheduled for the proposal opening, the sealed proposal will be accepted and opened on the next business day of the County, at the originally scheduled hour.

THIS PUBLIC BODY DOES NOT DISCRIMINATE AGAINST FAITH-BASED ORGANIZATIONS.

The County reserves the right to cancel this IFB and/or reject any or all proposals and to waive any informalities in any proposal.

This section is to be completed by the Offeror and this page must be returned with the bid. In compliance with this Invitation For Bid and subject to all terms and conditions imposed herein, which are hereby incorporated herein by reference, the undersigned offers and agrees to furnish the services and/or items requested in this solicitation if the undersigned is selected as the successful Bidder. No Bid may be withdrawn within a period of sixty (60) days after Bid opening except for clerical errors, as set forth in part (1) of Section 2.2-4330(B), Virginia Code, 1950, as amended. Notices of bid withdrawal must be submitted in writing to the Purchasing Division.

My signature certifies that the bid as submitted complies with all requirements specified in this Invitation for Bid ("IFB"). If this Bid is accepted by the County, to provide the services and/or items in accordance with this Invitation for Bid and to execute a Contract/Purchase Order substantially similar to the attached Contract/Purchase Order Terms and Conditions for such services and/or items. My signature also certifies that by submitting a bid in response to this IFB, the Bidder represents that in the preparation and submission of this bid, the Bidder did not, either directly or indirectly, enter into any combination or arrangement with any person or business entity, or enter into any agreement, participate in any collusion, or otherwise take any action in the restraining of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section 1) or Sections 59.1-9.1 through 59.1-9.17 or Sections 59.1-68.6 through 59.1-68.8 of the Code of Virginia.

I hereby certify that I am authorized to sign as a legal representative for the business entity submitting this bid.

Legal Name and Address of Firm:

Date: _____

By: _____
(Signature in Ink)

Name: _____
(Please Print)

Phone: _____ FAX: _____

Email: _____ Business License# _____

Virginia State Corporation Commission Identification Number: _____

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Bent Mountain Center Roof Trim Replacement

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COUNTY OF ROANOKE, VIRGINIA
INVITATION FOR BID NO. 2023-033
Bent Mountain Center Roof Trim Replacement

SECTION 1. PURPOSE

The purpose of this Invitation for Bid (IFB) is the procurement of roof trim replacement services for the Bent Mountain Center.

The County of Roanoke invites any qualified Bidder to respond to this IFB by submitting a Bid for such work, service, and/or items consistent with the terms and conditions herein set forth.

The County will review each bid and may elect to issue separate awards to the lowest responsive and responsible Bidder(s) for such goods/services.

SECTION 2. BACKGROUND

The Bent Mountain Center was built in primarily two distinct projects. The original building was built in 1930. In 1990, an addition was constructed. The addition included a new gym, kitchen, bathrooms & library. Additionally, the original 1930 section was remodeled. Currently, the roof trim is severely deteriorated and needs replacement.

Please be aware that we also have bats in the building and are working with another vendor for abatement. This project will seal up those pathways into & out of the building. We do have a limited construction window for the repair work to be completed.

SECTION 3. SERVICES AND/OR ITEMS REQUIRED

The following are the services and/or items that the Successful Bidder shall provide to the County of Roanoke is roof trim replacement services for the Bent Mountain Center. Please refer to drawings and associated documents in Attachment E.

This project is to:

- Add metal cladding on existing painted wood roof trim on both the original 1930 area and also the 1990 gym roof.
- Replace the aluminum soffit panels on the 1990 gym roof.
- Drill holes in the existing 1930 area soffit and add perforated soffit panels.
- Provide new, or add drip edge trim at the slate roof on the original 1930 building.
- Provide new gutters & down spouts on both 1930 & 1990 roof areas.
- Some of the existing trim will need to be replaced because it is warped or rotted and cannot be acceptably covered. The unit price shall include all labor, materials and disposal costs.
- The work of the project will result in contact with lead based paint. Handling & disposal of material needs to be in accordance with applicable regulations
- Other services/work to be determined as appropriate.

SECTION 4. REQUIRED QUALIFICATIONS FOR BIDDERS

NOT USED.

SECTION 5. TERM OF CONTRACT OR TIME OF PERFORMANCE

- A. The Successful Bidder shall start the performance of any resultant Contract as fixed by a notice to proceed given by the County to the Successful Bidder and fully and completely perform the Contract within 90 consecutive calendar days after such date, all in accordance with the Contract provisions.
- B. All terms and conditions shall remain in force for the term of the Contract and for any renewal period unless modified by mutual agreement of both parties. Prices shall not be increased during the initial term of the Contract. Prices for any renewal periods will be subject to the mutual agreement of both parties.

SECTION 6. PAYMENT FOR SERVICES

Payment(s) to the Successful Bidder shall be made in accordance with the provisions of the resultant Contract or Purchase Order, subject to final approval by the County.

SECTION 7. GENERAL INSTRUCTIONS TO BIDDERS

- A. Bids, to be considered, must be received by the County of Roanoke Purchasing Division, at the Roanoke County Administration Building, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018, at or before 2:00 p.m., local time, on 9/22/2022, at which time all Bids received will be publicly opened and read. **Bids received after 2:00 p.m. will NOT be accepted or considered.** The time of receipt shall be determined by the time clock stamp in the Purchasing Office, or if it is not working, such time shall be determined by the Purchasing official who is to open the bids.
Each Bid, one (1) **original, marked as such** and three (3) **copies, marked as such**, must be appropriately signed by an authorized representative of the Offeror, and must be submitted in a **SEALED** envelope or package. A removable media storage device containing two (2) digital copies of the proposal, one as submitted, and one **redacted to remove all confidential and proprietary material**, must be included in the proposal packet. The notation "**Bent Mountain Center Roof Trim Replacement", IFB No. 2023-033**", and the specified opening time and date must be clearly marked on the front of that sealed envelope or package.

FAXED OR E-MAILED BIDS ARE NOT ACCEPTABLE.

The Invitation for Bid and related documents may be obtained during normal business hours from the Purchasing Division, at the Roanoke County Administration Building, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018. This document may be viewed and/or downloaded from the County of Roanoke Purchasing Division's website at <https://www.roanokecountyva.gov/bids.aspx>. If you have any problems accessing the documents, you may contact Purchasing at (540) 772-2061.

If proposals are hand delivered or mailed, send directly to the Purchasing Division at the address listed above. If the Roanoke County Administration Building is closed for business at the time scheduled for the Bid opening, the sealed bid will be accepted and opened on the next business day of the County, at the originally scheduled hour.

All questions must be submitted before 5:00 P.M. on 9/16/2022. If necessary, an addendum will be issued and posted to the County website on the Current Bids/RFP Requests tab at <https://www.roanokecountyva.gov/bids.aspx>.

A non-mandatory pre-bid conference will be held at 2:00 PM on September 13, 2022, at the Bent Mountain Center at 10140 Tinsley Ln, Bent Mountain, VA 24059.

- B. If you download this IFB from the County website and intend to submit a proposal, you should notify Purchasing that you have done so. However, each Bidder is solely responsible for ensuring that such Bidder has the current, complete version of the IFB documents, including any addenda, before submitting a bid. Receipt by the bidder of such addendum should be acknowledged on the Bid Form and/or addendum. The County Purchasing Division or its designee will issue Addenda that will be posted to the County website on the Current Bid Opportunities tab at <https://www.roanokecountyva.gov/bids.aspx>.

IMPORTANT NOTICE - ADDENDUMS AND NOTICES OF AWARD

Vendors may visit <http://roanokecountyva.gov/list.aspx> to sign up to receive emails or text message notices about bids, proposals, addendums, bid tabulation and awards. Vendors can sign up to receive notification in selected commodity/service categories. It is the vendor's responsibility to keep information current in the system in order to receive the notifications. The sign up only requires an email address and/or a cell phone number for receiving text messages (if your phone is capable) and your choice of categories.

Although 'Notify Me' will be the only way to receive automatic notification, all BIDS/RFP Information will continue to be posted on our website, and can be picked up at the Purchasing Division, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018. Phone # (540) 772-2061.

The County is not responsible for any IFB obtained from any source other than the County. Contact Neil Huss, by phone at 540-283-8151, or by email at nhuss@roanokecountyva.gov.

- D. Payment terms and delivery date(s) must be shown on the submitted Bid, if applicable.
- E. All Bids are to be submitted in accordance with all terms, conditions, rules, regulations, requirements and specifications identified in and by this IFB.
- F. Bids are to be on the Form as provided with **OR as otherwise specified** in this IFB. If a Bid Form is provided, **no changes are to be made to the Bid Form**. Any changes to Bid amounts must be initialed.
- G. All Bids shall be signed by a person on behalf of the responding Bidder who is appropriately authorized to do so. The printed name of that authorized person should be shown as well. Any Bid submitted should be in the complete legal

name of the Bidder responding. No Bid will be considered from any Bidder not properly licensed as may be required by law.

H. Except in cases of emergency, all bids for construction contracts shall be accompanied by a bid bond from a surety company selected by the bidder, which is legally authorized to do business in Virginia.

1. A bid, payment or performance bond for contracts for goods or services other than construction may be required if provided in the Invitation for Bid.
2. The amount of the bid bond shall not exceed five percent (5%) of the total amount of the bid.
3. In lieu of a bid bond, a bidder may furnish a certified check or cash escrow in the face amount required for the bond.
4. Upon award of any public construction contract exceeding \$100,000 awarded to any prime contractor, such contractor shall furnish:
 - a. Performance bond in the sum of the contract amount.
 - b. Payment bond in the sum of the contract amount.
5. Performance and/or payment bonds may be required for construction contracts below \$100,000 at the discretion of the County.
6. In cases of emergency performance bonds/payment bonds are required within ten (10) calendar days of notice to proceed or project commencement.

I. Bids that have been appropriately opened cannot be changed, adjusted, corrected or modified in any way other than complete withdrawal. The County's procedures for withdrawal of bids (whether construction or other than construction) is that set forth in Code of Virginia, §2.2-4330(A)&(B)(1), which allows withdrawal of a Bid due to an error such as an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a Bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the Bid. Withdrawal must be requested within two days of the Bid opening by delivering to the County original work papers, documents, and materials used in preparation of the Bid.

J. All Bids, appropriately received, will be evaluated by considering the requirements set forth in the IFB, the quality, workmanship, economy of operation, suitability for intended purpose, delivery, payment terms and price of product or service being requested in this Bid.

K. Bids are to be submitted on the type, brand, make, and/or kind of product and/or service requested or its approved equal, to be solely determined by the County, unless otherwise specified. Should a Bid be for a product and/or service as an equal, the name, make, model and type of that which is being Bid must be clearly stated. The Bid must also be accompanied by descriptive literature of the product or service Bid to allow for evaluation. Failure to provide this information may result in the Bid being considered non-responsive and may not be considered. It is not the intent of the specifications to be proprietary, nor to exclude any manufacturer or dealer. Deviations will be given consideration if they are considered to be suitable and acceptable for comparison. Any deviations must

be submitted, in writing, with your bid. Deviations discovered after bid award or material receipt, not stated in your bid, shall be grounds for disqualification and nullification of order. It is the responsibility of the Offeror to prove that the deviation is equal to the product/service specified. The County of Roanoke will make the final determination as to whether the product is equivalent.

L. If an award is made for the item(s) and/or services requested, a notice of award will be made which will be posted for public review on the County of Roanoke Purchasing Division's website under Current Bid Opportunities at <https://www.roanokecountyva.gov/bids.aspx> or you may contact Purchasing directly at (540) 772-2061 to request a copy of the award notification. Upon completion of the Contract/Purchase Order, payment will be made only to the Successful Bidder at the address as shown on the Contract/Purchase Order. If the remittance address is other than the address on the Bid, it must be clearly noted and explained in the Bid. Contract/Purchase Order (s) will be paid only when the items and/or services have been supplied to and approved by the County.

M. All items, identified in this IFB, are to be quoted and provided **F.O.B. DESTINATION-INSIDE DELIVERY**, unless otherwise stated in this IFB. All furniture items, if any, are to be put together and set in place.

N. The County reserves the right to cancel this IFB or reject any or all Bids, to waive any informalities in any Bid and to purchase any whole or part of the items and/or services listed in the IFB.

O. Each Bidder is to notify in writing the Purchasing Division if any of Bidder's owners, officers, employees, or agents, or their immediate family members, is currently or has been in the past year, an employee of the County of Roanoke or has any responsibility or authority with the County that might affect the procurement transaction or any claim resulting therefrom. If so, please provide the Purchasing Division with the complete name and address of each such person and their connection to the County of Roanoke. Each Bidder is advised that the Ethics in Public Contracting and Conflicts of Interests Act of the Code of Virginia, as set forth in this IFB, apply to this IFB. Such information should be provided in writing before the Bid opening date or may also be provided with the Bid response.

P. **The attention of each Bidder is directed to VA Code Sections 54.1-1100 et seq. which requires certain licenses for contractors, tradesmen and others. Each Bidder is required to determine which license, if any, it is required to have under such sections. Each Bidder shall so state on the Bid Form, or in its response, if no Bid Form is provided, whether it has a VA license under such sections and, if so, the type of license and/or license number. Failure to include this information may result in the Bid being rejected as non-responsive.**

Q. Bid Submittals shall include:

1. Page 1, Invitation for Bid
2. Attachment A, The Bid Form (Unit Price shall include all labor, material, delivery costs, overhead and profit.)

3. Attachment B, Virginia State Corporation Commission (SCC) Registration Information
4. Attachment C, Notice of Proprietary Information
5. Any Addendums

Failure to do so may result in the Bid being determined as non-responsive.

Questions or concerns may be addressed by contacting Neil Huss by phone at 540-283-8151, or by email at nhuss@roanokecountyva.gov.

- R. Ethics in Public Contracting. The provisions, requirements, and prohibitions as contained in Sections 2.2-4367 through 2.2-4377, of the Virginia Code, pertaining to bidders, offerors, contractors, and subcontractors are applicable to this IFB.
- S. Conflict of Interests Act. The provisions, requirements, and prohibitions as contained in Sections 2.2-3100, et seq., of the Virginia Code are applicable to this IFB.
- T. The procurement provisions of the Virginia Public Procurement Act as well as the County Procurement Manual, apply to this RFP, unless specifically modified herein. The County's Procurement Manual can be reviewed on the County's electronic procurement website.
- U. The County may request clarification from any of the Bidders after review of the Bids received.
- V. The County is not liable for any costs incurred by any Bidder in connection with this IFB or any response by any Bidder to this IFB. The expenses incurred by a Bidder in the preparation, submission, and presentation of the Bid are the sole responsibility of the Bidder and may not be charged to the County.
- W. General and/or technical questions regarding the Scope of Services and/or items required, or procurement questions under this IFB may be directed to Neil Huss, Buyer, by phone at 540-283-8151, or by email at nhuss@roanokecountyva.gov.
- X. Each Bidder is required to state if it has ever been debarred, fined, had a contract terminated, or found not be a responsible bidder or Offer or by any federal, state, or local government and/or private entity. If so, please give the details of each such matter and include this information with Bidder's response.
- Y. **Data on Convictions for Certain Crimes and Child Abuse and Neglect Certification of Contractor:** The Consultant certifies that none of the persons who will provide services requiring direct contact with students on school property during school hours or during school-sponsored activities has been convicted of any of the following felony or misdemeanor offenses: felony sex or violence offenses, other felony offenses or misdemeanor sex offenses within the past ten years.
The Consultant further understands and acknowledges (1) that if he makes a materially false statement regarding any of the above offenses, he will be guilty of a Class 1 misdemeanor and may forfeit profits derived from the contract. Further, the Consultant understands and acknowledges that before any person is permitted to provide such services subsequent to this certification, he must complete a new certification regarding such person in a form satisfactory to Roanoke County and the Roanoke County School Board. **Data and Convictions information will be requested before the County of Roanoke/Schools enters into a contract when required.**

- Z. Each Bidder who is a stock or Nonstock Corporation, Limited Liability Company, business trust, or a limited partnership or other business entity shall be authorized to transact business in the Commonwealth of Virginia as a domestic or foreign business entity if required by law. Each such Bidder shall include in its bid response the Identification Number issued to it by the Virginia State Corporation Commission (SCC) and should list its business entity name as it is listed with the SCC. Any Bidder that is not required to be authorized to transact business in the Commonwealth as a domestic or foreign business entity as required by law shall include in its bid response a statement describing why the Bidder is not required to be so authorized. (See Va. Code Section 2.2-4311.2).
- AA. Direct contact with any County employee without the permission of the Purchasing Manager or her designated representative, on the subject of this bid, is strictly forbidden. Violation of this Instruction may result in disqualification of Bid.

SECTION 8. MISCELLANEOUS

- A. Ownership of all data, materials, and documentation originated and prepared for the County pursuant to the IFB shall belong exclusively to the County and be subject to public inspection in accordance with the *Virginia Freedom of Information Act*. The trade secrets or proprietary information submitted by the Bidder shall not be subject to public disclosure under the *Freedom of Information Act*, unless otherwise required by law or a court. **However, the Bidder must invoke the protection of Section 2.2-4342(F) of the Code of Virginia, in writing, either before or at the time the data or other material is submitted.** The written notice must SPECIFICALLY identify the data or materials to be protected and state the reason why protection is necessary. The proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. The classification of an entire proposal document, line item prices, and/or total proposal prices as proprietary, or trade secrets, is NOT ACCEPTABLE and may result in REJECTION of the Bid.
- B. All Bidders shall be solely responsible for making sure that they have the most current and complete version of this IFB and all addenda that may have been issued for this IFB and that such Bidder has examined all such documents and data. Any interpretation, correction, or change of the IFB will be made by an addendum. Interpretations, corrections or changes of this IFB made in any other manner will not be binding and Bidders must not rely upon such interpretations, corrections, or changes. The County Purchasing Division or its designee will issue Addenda that will be posted to the County website on the Current Bid Opportunities tab at <https://www.roanokecountyva.gov/bids.aspx>.
- C. No Bidder shall confer on any public employee having official responsibility for a purchasing transaction any payment, loan, subscription, advance, deposit or money, service, or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value is exchanged.
- D. The County may make investigations to determine the ability of the Bidder to perform the work and/or provide the services and/or items as described in this IFB.

The County of Roanoke reserves the right to reject any Bid if the Bidder fails to satisfy the County of Roanoke that it is qualified to carry out the obligations and requirements requested in this IFB.

- E. The Successful Bidder must comply with the nondiscrimination provisions of Virginia Code Section 2.2-4311, which are incorporated herein by reference.
- F. The Successful Bidder must comply with the drug-free workplace provisions of Virginia Code Section 2.2-4312, which are incorporated herein by reference.
- G. It is the policy of the County of Roanoke to maximize participation whenever possible by minority and women owned business enterprises in all aspects of County contracting opportunities.
- H. The Successful Bidder shall comply with all applicable County, State, and Federal laws, codes, provisions, and regulations. The successful Bidder shall not during the performance of any resultant contract knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.
- I. Providers of any outside services and/or items shall be subject to the same conditions and requirements as the Successful Bidder in regards to law, code, or regulation compliance. The County reserves the right of approval for any subcontract work, including the costs thereof.

SECTION 9. EVALUATION FOR LOWEST RESPONSIVE AND RESPONSIBLE BIDDER

To determine the lowest responsive and responsible Bidder with respect to this Bid, the following factors, among such others as will protect and preserve the interest of the County may be considered:

- A. Total extended Bid price as set forth on the Bid Form;
- B. The specified terms and discounts, if any, of the Bid;
- C. The ability, capacity and skill of the Bidder to perform the Contract and/or provide the services and/or items required;
- D. Whether the Bidder can perform the Contract and/or perform the services and/or provide the items promptly, or within the time specified, without delay or interference;
- E. The character, integrity, reputation, judgment, experience and efficiency of the Bidder;
- F. The quality of performance on previous contracts or services;
- G. The previous and existing compliance by the Bidder with laws and ordinances relating to other contracts, purchase orders, items and/or services provided by Bidder in other matters;
- H. The equipment and facilities available to the Bidder to perform the Contract and/or provide the services and/or items requested in the IFB;
- I. The sufficiency of the financial resources and ability of the Bidder to perform the Contract and/or provide the services and/or items requested in the IFB;
- J. The quality, availability, and adaptability of the supplies, materials, equipment and/or services the Bidder can provide for the particular use and/or work requested in the IFB; and
- K. The ability of the Bidder to provide future maintenance, parts, and service for the items requested in the IFB.

SECTION 10. CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE

Successful Bidder, and any of its subcontractors, shall, at its sole expense, obtain and maintain during the life of the resulting Contract/Purchase Order the insurance policies and/or bonds required. Any required insurance policies and/or bonds shall be effective prior to the beginning of any work or other performance by Successful Bidder, or any of its subcontractors, under any resultant Contract/Purchase Order. All such insurance shall be primary and noncontributory to any insurance or self-insurance the County may have. The policies and coverages required are those as may be referred to in the sample contract and/or the terms and conditions attached to this IFB, but shall include workers' compensation coverage regardless of the number of employees, unless otherwise approved by the County's Risk Manager.

SECTION 11. NEGOTIATIONS WITH LOWEST RESPONSIVE AND RESPONSIBLE BIDDER

If the bid by the lowest responsive and responsible bidder exceeds available funds, the County reserves the right to negotiate with the apparent lowest responsive bidder pursuant to County Code Chapter 17 (Ord. No. 3350, S2-30,12-14-82). State Code 2.2.4318. The conditions and procedures under which such negotiation may be undertaken are that the appropriate County officials shall determine that the lowest responsive and responsible bid exceeds available funds and notify such bidder in writing of its desire to negotiate. Thereafter, negotiations with the apparent low bidder may be held to obtain a Contract within available funds involving discussions of reduction of quantity, quality, or other cost saving mechanisms. Any such negotiated Contract shall be subject to final approval of the County, in the sole discretion of the County.

SECTION 12. BID AWARD

If an award of a Contract/Purchase Order is made, it will be awarded to the lowest responsive and responsible bidder. If an award of a contract is made, notification of such award will be posted for public review on the County of Roanoke Purchasing Division's website under Current Bid Opportunities at <https://www.roanokecountyva.gov/bids.aspx> or you may contact Purchasing directly at (540) 772-2061 to request a copy of the award notification.

SECTION 13. FAITH BASED ORGANIZATIONS

Pursuant to Virginia Code Section 2.2-4343.1, be advised that the County does not discriminate against faith-based organizations.

SECTION 14. HOLD HARMLESS AND INDEMNITY

Successful Bidder shall indemnify and hold harmless the County and its officers, agents, and employees against any and all liability, losses, damages, claims, causes of action, suits of any nature, costs, and expenses, including reasonable attorney's fees, resulting from or arising out of Successful Bidder's or its employees, agents, or subcontractors actions, activities, or omissions, negligent or otherwise, on or near County's property or arising in any way out of or resulting from any of the work or items to be provided under the Contract/Purchase Order, and this includes, without limitation, any fines or penalties,

violations of federal, state, or local laws or regulations, personal injury, wrongful death, or property damage claims or suits. Successful Bidder agrees to and shall protect, indemnify, and hold harmless all the parties referred to above from any and all demands for fees, claims, suits, actions, causes of action, settlement or judgments based on the alleged or actual infringement or violation of any copyright, trademark, patent, invention, article, arrangement, or other apparatus that may be used in the performance of the Contract/Purchase Order.

SECTION 15. PROTESTS

Any Bidder who wishes to protest or object to any award made or other decisions Pursuant to this IFB may do so only in accordance with the provisions of Sections 2.2-4357, 4358, 4359, 4360, 4363, and 4364 of the Code of Virginia, and only if such is provided for in such Code section. Any such protest or objection must be in writing signed by a representative of the entity making the protest or objection and contain the information required by the applicable Code Sections set forth above. Such writing must be delivered to the County Manager within the required time period.

SECTION 17. INFORMATION ON CONTRACT/PURCHASE ORDER TO BE AWARDED

The Sample Contract marked as Attachment D to IFB No. 2023-001 contains Terms and Conditions that the County plans to include in any Contract/Purchase Order that may be awarded, but such Terms and Conditions may be added to, deleted, or modified as may be agreed to between the County and the Successful Bidder. However, if a Bidder has any objections to any of the Terms or Conditions set forth in the such Attachment or any changes or additions thereto that the Bidder wants to discuss before submitting a bid, the Bidder should set forth such objections, changes, or additions in written correspondence to the Purchasing Division at least five (5) days before the bid opening date for this IFB. Otherwise, submission of a bid by a Bidder will obligate such Bidder, if it is the Successful Bidder, to enter into a Contract/Purchase Order containing the same or substantially similar Terms and Conditions as contained in such Attachment, and to comply with such Terms and Conditions. Also, such Terms and Conditions, together with the requirements of this IFB, shall be deemed to be a part of any resultant Contract/Purchase Order that may be issued by the County to the Successful Bidder.

END.

IFB # 2023-033
ATTACHMENT A: Bid Form/ Specifications

County of Roanoke
Purchasing Division
5204 Bernard Drive, SW, Suite 300-F
Roanoke, VA 24018-0798

The County reserves the right to add, delete, or adjust quantities as deemed necessary by the County.

Bids containing any conditions, omissions, unexplained erasures, alterations or items not called for in the bid, or irregularities of any kind, may be rejected by the County as being nonresponsive. No changes are to be made to the Bid Form. Any changes to a Bid Amount must be initialed by the person signing the Bid Form.

I/We hereby propose to furnish and provide roof trim replacement services for the Bent Mountain Center., in accordance with the enclosed general terms, conditions and specifications contained in IFB No. **2023-033**. The Bid Form must be completed in blue or black ink. Discrepancies in the multiplication of units of work and the unit prices will be resolved in favor of the correct multiplication of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. My/Our prices are as follows:

PRICES QUOTED SHALL BE FOB DESTINATION. Freight charges shall be included in the bid price.

Lump Sum: _____ **Trim Replacement (\$ / board foot):** _____

My/Our payment terms are: _____. If Bidder offers a cash discount for prompt payment, it will only be considered in determining the lowest responsible Bidder if the Bidder allows at least twenty (20) days for the prompt payment after the goods or services are received or after the invoice is rendered, whichever is later.

I/We can furnish and deliver all items within _____ calendar days after the date of the written notice to proceed with the contract from the County.

To aid in the evaluation of bids, bidders must submit the original Bid Form and one copy of the Bid Form, Attachments, and detailed specification sheets, if applicable. If you fail to do so, your bid may be considered non-responsive and rejected. Have you complied with this requirement?
____Yes / ____No.

Indicate whether your business _____ IS or _____ IS NOT located in Roanoke County. If it is, please include a copy of your Roanoke County business license with your bid.

I/We acknowledge the receipt of:

Addendum No._____ Dated_____.

ATTACHMENT B: Virginia State Corporation Commission (SCC) Registration Information

The attention of each Bidder is directed to VA Code sections 54.1-1100, et seq. which requires certain licenses for contractors, tradesmen, and others. Each Bidder is required to determine which license, if any, it is required to have under such sections. Complete the following:

Bidder does have or does not have a Virginia Contractor's License. (Check one)

If Bidder has a Virginia Contractor's License, circle the class Bidder has and list the number.

Licensed "Class A", "Class B", or "Class C" Virginia Contractor Number: _____

If Bidder has another type of Virginia License, please list the type and number:

Type of license: _____ and number: _____.

Bidder is a resident or nonresident of Virginia. (Check appropriate blank.) See VA Code Sections 54.1-1100, et seq.

The attention of each Bidder is directed to Virginia Code Section 2.2-4311.2 which requires a bidder organized or authorized to transact business in the Commonwealth of Virginia pursuant to Title 13.1 or Title 50 of the Code of Virginia, as amended, or as otherwise required by law, shall include in its bid the Identification Number issued to such bidder by the Virginia State Corporation Commission (SCC). Furthermore, any bidder that is not required to be authorized to transact business in the Commonwealth of Virginia as a domestic or foreign business entity under Title 13.1 or Title 50 or as otherwise required by law shall include in its bid a statement describing why the bidder is not required to be so authorized. Please complete the following by checking the appropriate line that applies and providing the requested information:

A. _____ Bidder is a Virginia business entity organized and authorized to transact business in Virginia by the SCC and such bidder's/offeror's Identification Number issued to it by the SCC is: _____.

B. _____ Bidder is an out-of-state (foreign) business entity that is authorized to transact business in Virginia by the SCC and such bidder's Identification Number issued to it by the SCC is: _____.

C. _____ Bidder does not have an Identification Number issued to it by the SCC and such bidder is not required to be authorized to transact business in Virginia by the SCC for the following reason(s):

Please attach additional sheets of paper if you need more space to explain why such bidder is not required to be authorized to transact business in Virginia.

Signature page required with submittal of bid

IFB # 2023-033
ATTACHMENT C: Notice of Proprietary Information Form

Confidentiality References Protection in Accordance with the Code of Virginia, Section 2.2-4342

Section Title	Page #	Reason(s) for Withholding from Disclosure

INSTRUCTIONS: Identify the data or other materials to be protected and state the reasons by using the codes listed below. Indicate the specific words, figures, or paragraphs that constitute trade secrets or proprietary materials. The classification of an entire bid or proposal document, line item prices, and/or total bid or proposal prices as proprietary or trade secret is not acceptable and will result in rejection of the bid or proposal.

- A) This page contains information relating to "trade secrets", and "proprietary information" including processes. Operations, style of work, or apparatus. Identify confidential statistical data. Amount or source of any income...of any person (or) partnership. See Virginia Public Procurement Act. Section 2.2-4342. Unauthorized disclosure of such information would violate the Trade Secrets Act 18 U.S.C. 1905.
- B) This page contains proprietary information including confidential, commercial or financial information, which was provided to the Government on a voluntary basis and is of the type that would not customarily release to the public. See Virginia Public Procurement Act, Section 2.2-4342; 5 U.S.C. 552 (b) (4); 12 C.F.R. 309.5(c) (4).
- C) This page contains proprietary information including confidential, commercial or financial information. The disclosure of such information would cause substantial harm to competitive position and impair the Government's ability to obtain necessary information from contractors in the future. 5 U.S.C. See Virginia Public Procurement Act. Section 2.2-4342; 552 (b) (4)12 C.F.R. 309.5(c) (4).



ATTACHMENT D: Sample Contract and Terms or Conditions

**SAMPLE CONTRACT BETWEEN
COUNTY OF ROANOKE AND _____
FOR _____**

This Contract # 2023-033 is dated February 12, 2020, between the County of Roanoke, Virginia, hereinafter referred to as the "County" or "Owner", and _____, hereinafter referred to as the "Contractor."

WITNESSETH:

WHEREAS, Contractor has been awarded this nonexclusive Contract by the County for furnishing all equipment, materials, goods, labor, and services necessary for _____ and associated work in accordance with this Contract and the documents referred to herein, all such items or services also being referred to hereinafter as the Work or Project.

NOW, THEREFORE, THE COUNTY AND THE CONTRACTOR AGREE AS FOLLOWS:

SECTION 1. WORK TO BE PERFORMED AND DOCUMENTS.

For and in consideration of the money hereinafter specified to be paid by the County to the Contractor for the Work provided for in this Contract to be performed by the Contractor, the Contractor hereby covenants and agrees with the County to fully perform the services, provide any materials called for to construct, and complete the Work called for by this Contract in a good and workmanlike manner in accordance with this Contract and the documents referred to herein in order to fully and properly complete this Contract within the time stipulated, time being made of the essence for this Contract. It is also agreed by the parties hereto that the documents to this Contract consist of this Contract and the following documents listed below (Contract Documents), all of which are and constitute a part of this Contract as if attached hereto or set out in full herein, viz:

1. Insurance Requirements (Exhibit 1).
2. Scope of Work/Fee Schedule (Exhibit 2).
3. List of Locations (Exhibit 3).
4. Bid Form Completed by Contractor and dated _____ (Exhibit 4). **(To be provided after selection of Successful Bidder.)**
5. County Special Terms and Conditions (Exhibit 5).
6. Invitation for Bid No. or Request for Proposal No. _____, which is incorporated herein by reference.

The parties agree that if there are any differences between the provisions of the above referenced documents, the provisions of the County documents and this Contract will control over any Contractor supplied documents or information.

SECTION 2. CONTRACT AMOUNT.

The County agrees to pay the Contractor for the Contractor's complete and satisfactory performance of the Work, in the manner and at the time set out in this Contract, but the total amount for all such requests will not exceed \$_____, as provided for in this Contract and that this Contract amount may be increased or decreased by additions and/or

reductions in the Work as may be authorized and approved by the County, and the Contract amount may be decreased by the County's assessment of any damages against the Contractor, as may be provided for in this Contractor or by law, and the County retains the right of setoff as to any amounts of money the Contractor may owe the County. However, Contractor further acknowledges and agrees that any request for Contractor to perform Work under this Contract is in the sole discretion of the County and that there is no guarantee of any minimum amount of Work that may be requested by the County and that no Work may be requested.

SECTION 3. TERM OF CONTRACT.

- A. The term of this Contract shall be for one (1) year, from _____, through _____, at which time it will terminate, unless sooner terminated pursuant to the terms of the Contract or by law or unless extended as set forth herein at the option of the County.
- B. By mutual agreement of the parties, the contract may be renewed for up to four (4) additional one (1) year periods of any combination thereof. If either party wants to renew the Contract that party shall give a written request to renew to the other party before the expiration of the original term or any renewal term of the Contract. The party receiving such request shall either accept or reject in writing such request within ten (10) days of receipt of that request, provided, however, if the party receiving the request to renew fails to respond within ten (10) days, the request to renew shall be deemed to be rejected, unless the parties mutually agree otherwise.
- C. All terms and conditions shall remain in force for the term of this Contract and for any renewal period unless modified by mutual agreement of both parties. Prices shall not be increased during the initial term of this Contract.

SECTION 4. TIME OF PERFORMANCE.

The Contractor shall commence the Work to be performed under this Contract on such date as is established and fixed for such commencement by written notice (which may be initially given verbally in an emergency situation) to proceed given by the County representative to the Contractor, and the Contractor covenants and agrees to fully construct, perform, and complete the Work and/or provide the goods called for by this Contract established by such notice. The Contractor further agrees that the Work shall be started promptly upon receipt of such notice and shall be prosecuted regularly, diligently, and uninterrupted at a rate of progress that will ensure full completion thereof in the shortest length of time consistent with the Contract Documents and that Contractor will cooperate and coordinate with the other County contractors or employees doing other work or using the area where Contractor is working.

SECTION 5. PAYMENT.

- A. The County and Contractor agree that the County will only pay the Contractor for time actually spent and materials actually provided on the Project requested and accepted by the County. The payment requested shall be for the services completed and/or materials supplied for the Project, as specified in the Scope of Work (Exhibit 2) and as approved by the Court Services. A written progress report detailing work completed, identified problems, and remaining work shall accompany each request for payment, together with sufficient documentation of all reimbursable expenses or costs.
- B. Also, sufficient documentation of all costs, expenses, materials supplied, and/or hours worked may be requested by the County and, if so, may be required prior to the processing of any such request for payment. Payment will only be made for work actually performed, services actually supplied, and/or materials or goods furnished to the County, all of which need to be approved and accepted by the County prior to such payment, unless otherwise provided for in the Contract documents. Invoices for work rendered and accepted shall

be submitted by Contractor directly to the Court Services. Approval and payment of such invoices shall be the responsibility of the Court Services or designee. Once a payment request has been received by the County, the County will process such payment request. If there are any objections or problems with the payment request, the County will notify the Contractor of such matters. If the payment request is approved and accepted by the County, payment will be made by the County to the Contractor not more than 30 days after such request has been approved.

C. The services the Contractor may be requested to provide the County are those items set forth in Exhibit 2 (Scope of Work) and/or Exhibit 3 (Bid Form), which list of services may be amended by the mutual agreement of the parties. The prices to be paid to the Contractor for such services provided to and accepted by the County under the provisions of this Contract shall be the current price(s) as set forth in Exhibit 3 (Bid Form). Unless otherwise stated in this Contract, the price(s) shall include all applicable charges such as pick up, delivery, printing, packaging, shipping, and other charges.

SECTION 6. SALES TAX EXEMPTION.

The County is exempt from payment of State Sales and Use Tax on all tangible personal property purchased or leased for the County's use or consumption. The Virginia Sales and Use Tax Certificate of Exemption number is 217-074292-9.

SECTION 7. FREE ON BOARD, RISK OF LOSS, AND TITLE.

All prices include F.O.B Destination, inside delivery, unless otherwise noted in this Contract. The risk of loss from any casualty, regardless of cause, shall be on the Contractor until the items have been delivered to County personnel making the request and accepted by the County. The risk of loss shall also be on the Contractor during the return of any items to the Contractor. Title to the items shall pass to the County upon receipt and acceptance of such items by the County.

SECTION 8. INSPECTION.

The County shall have a reasonable time after receipt of items and before payment to inspect all items for conformity to this Contract. If all or some of the items delivered to the County do not fully conform to the provisions hereof, the County shall have the right to reject and return such nonconforming items, at the sole cost of the Contractor.

SECTION 9. WARRANTY OF MATERIAL AND WORKMANSHIP.

Contractor agrees that all items provided to the County will be new, or if an item is refurbished or remanufactured, such item will meet the industry standards for such item and the item shall be clearly labeled as refurbished or remanufactured, and that all such items include such warranties as may be provided by Virginia law together with any warranties provided by the manufacturer of the item. Contractor shall use reasonable commercial efforts to assist the County in processing warranty claims against a manufacturer. Contractor also agrees that the services provided under this Contract shall be completed in a professional, good and workmanlike manner, with the degree of skill and care that is required by like contractors in Virginia. Further, Contractor warrants that such services shall be completed in accordance with the applicable requirements of this Contract and shall be correct and appropriate for the purposes contemplated in this Contract. Contractor agrees that Contractor shall repair or replace, at Contractor's sole expense, and to the satisfaction of the County, any items, material, equipment, or part of the item that is found by the County to be defective or not in accordance with the terms of this Contract.

A. The Contractor warrants that, unless otherwise specified, all material and equipment incorporated in the Work under the Contract shall be new, in first class condition, and in accordance with the Contract Documents. The Contractor further warrants that all

workmanship shall be of the highest quality and in accordance with the Contract Documents and shall be performed by persons qualified at their respective trades.

- B. Work not conforming to these warranties shall be considered defective.
- C. These warranties of material and workmanship are separate and independent from and in addition to any of the Contractor's other guarantees or obligations in this Contract or that may arise by law.
- D. The Design-Builder agrees to assign to Roanoke County at the time of final completion of the Work all manufacturer's warranties relating to equipment, materials, and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties. If necessary as a matter of law, the Design-Builder may retain the right to enforce directly any such manufacturers' warranties during the one-year period following the date of Substantial Completion.

SECTION 10. PAYMENTS TO OTHERS BY CONTRACTOR.

The Contractor agrees that Contractor will comply with the requirements of Section 2.2-4354 of the Virginia Code regarding Contractor's payment to other entities and the Contractor will take one of the two actions permitted therein within 7 days after receipt of amounts paid to Contractor by the County. Contractor further agrees that the Contractor shall indemnify and hold the County harmless for any lawful claims resulting from the failure of the Contractor to make prompt payments to all persons supplying the Contractor equipment, labor, tools, or material in connection with the work provided for in the Contract. In the event of such claims, the County may, in the County's sole discretion, after providing written notice to the Contractor, withhold from any payment request or final payment the unpaid sum of money deemed sufficient to pay all appropriate claims and associated costs in connection with the Contract and make such payment, if the County determines it to be appropriate to do so.

SECTION 11. HOLD HARMLESS AND INDEMNIFY.

Contractor shall indemnify and hold harmless the County and its officers, agents, and employees against any and all liability, losses, damages, claims, causes of action, suits of any nature, costs, and expenses, including reasonable attorney's fees, resulting from or arising out of Contractor's or its employees, agents, or subcontractors actions, activities, or omissions, negligent or otherwise, on or near County's property or arising in any way out of or resulting from any of the work or items to be provided under this Contract, and this includes, without limitation, any fines or penalties, violations of federal, state, or local laws or regulations, personal injury, wrongful death, or property damage claims or suits. Contractor agrees to and shall protect, indemnify, and hold harmless all the parties referred to above from any and all demands for fees, claims, suits, actions, causes of action, settlement or judgments based on the alleged or actual infringement or violation of any copyright, trademark, patent, invention, article, arrangement, or other apparatus that may be used in the performance of this Contract.

SECTION 12. COMPLIANCE WITH LAWS AND REGULATIONS, PERMITS, AND IMMIGRATION LAW.

- A. **Regulations:** The Contractor shall fully comply with all local, state, and federal ordinances, laws, and regulations, including without limitation all applicable building and fire code sections of the Occupational Safety and Health Act (OSHA), and the Virginia Uniform Statewide Building Code, and obtain all required licenses and permits, including business license, building permits, and pay all charges and expenses connected therewith. Contractor further agrees that Contractor does not, and shall not during the performance of this Contract; knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.

- B. **Permits and Licenses:** The Contractor shall, at its sole cost, obtain all required permits and license from the appropriate authorities, including the County of Roanoke. This includes, but is not limited to, all permits for any excavations in any public right-of-way. No delay or extension of time or any claim for additional compensation of any type shall be granted for failure to obtain any required permits.
- C. **Litter:** In accordance with the Virginia Anti-Litter Law, receptacles sufficient to contain employees' litter and construction wastes capable of being spread by wind or water shall be located on the construction site. The number and size of receptacles required shall be determined by the Contractor.
- D. **Asbestos License:** The Contractor, if not licensed as an asbestos abatement contractor or a Roofing, Flooring, and Siding (RFS) contractor in accordance with Section 54.1-514, of the Code of Virginia, shall have all asbestos related work performed by subcontractors who are duly licensed as asbestos contractors or RFS contractors as appropriate for the work required.

SECTION 13. INDEPENDENT CONTRACTOR.

The relationship between Contractor and the County is a contractual relationship. It is not intended in any way to create a legal agency or employment relationship. Contractor shall, at all times, maintain its status as an independent contractor and both parties acknowledge that neither is an agent, partner or employee of the other for any purpose. Contractor shall be responsible for causing all required insurance, workers' compensation (regardless of number of employees) and unemployment insurance to be provided for all of its employees and subcontractors. Contractor will be responsible for all actions of any of its subcontractors, and that they are properly licensed.

SECTION 14. REPORTS, RECORDS, AND AUDIT.

Contractor agrees to maintain all books, records, electronic data, and other documents relating to this Contract for a period of five (5) years after the end of each fiscal year included in this Contract. The County, its authorized employees, agents, representatives, and/or state auditors shall have full access to and the right to request, examine, copy, and/or audit any such materials during the term of the Contract and such retention period, upon prior written notice to Contractor. This includes the County's right to audit and/or examine any of the Contractor's documents and/or data as the County deems appropriate to protect the County's interests.

SECTION 15. INSURANCE REQUIREMENTS.

Contractor and any of its subcontractors involved in this Contract shall maintain the insurance coverage's set forth in Exhibit 1 to this Contract and provide the proof of such insurance coverage as called for in Exhibit 1, including workers' compensation coverage regardless of the number of Contractor's employees. Such insurance coverage shall be obtained at the Contractor's sole expense and maintained during the life of the Contract and shall be effective prior to the beginning of any work or other performance by the Contractor under this Contract. Additional insured endorsements, if required, must be received by the County within 30 days of the execution of this Contract or as otherwise required by the County's Risk Manager.

SECTION 16. DEFAULT.

If Contractor fails or refuses to perform any of the terms of this Contract, including poor services, work or materials, the County may, by written notice to Contractor, terminate this Contract in whole or in part. In addition to any right to terminate, the County may enforce any remedy available at law or in equity in connection with such default, and Contractor shall be liable for any damages to the County resulting from Contractor's default. The County further reserves the right to immediately obtain such work or services from other entities in the event of Contractor's default.

SECTION 17. NONWAIVER.

Contractor agrees that the County's waiver or failure to enforce or require performance of any term or condition of this Contract or the County's waiver of any particular breach of this Contract by the Contractor extends to that instance only. Such waiver or failure is not and shall not be a waiver of any of the terms or conditions of this Contract or a waiver of any other breaches of the Contract by the Contractor and does not bar the County from requiring the Contractor to comply with all the terms and conditions of the Contract and does not bar the County from asserting any and all rights and/or remedies it has or might have against the Contractor under this Contract or by law.

SECTION 18. FORUM SELECTION AND CHOICE OF LAW.

This Contract shall be governed by, and construed in accordance with, the laws of the Commonwealth of Virginia, without application of Virginia's conflict of law provisions. Venue for any litigation, suits, and claims arising from or connected with this Contract shall only be proper in the Roanoke County Circuit Court, or in the Roanoke County General District Court if the amount in controversy is within the jurisdictional limit of such court, and all parties to this Contract voluntarily submit themselves to the jurisdiction and venue of such courts, regardless of the actual location of such parties. The provisions of this Contract shall not be construed in favor of or against either party, but shall be construed according to their fair meaning as if both parties jointly prepared this Contract.

SECTION 19. SEVERABILITY.

If any provision of this Contract, or the application of any provision hereof to a particular entity or circumstance, shall be held to be invalid or unenforceable by a court of competent jurisdiction, the remaining provisions of this Contract shall not be affected and all other terms and conditions of this Contract shall be valid and enforceable to the fullest extent permitted by law.

SECTION 20. NONDISCRIMINATION.

A. During the performance of this Contract, Contractor agrees as follows:

- i. Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- ii. Contractor in all solicitations or advertisements for employees placed by or on behalf of Contractor will state that Contractor is an equal opportunity employer.
- iii. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

B. Contractor will include the provisions of the foregoing Section A (i, ii, and iii) in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

SECTION 21. DRUG-FREE WORKPLACE.

A. During the performance of this Contract, Contractor agrees to (i) provide a drug-free workplace for Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the

unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

B. For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

SECTION 22. FAITH BASED ORGANIZATIONS.

Pursuant to Virginia Code Section 2.2-4343.1, be advised that the County does not discriminate against faith-based organizations.

SECTION 23. Data on Convictions for Certain Crimes

The Contractor certifies that none of the persons who will provide services requiring direct contact with students on school property during school hours or during school-sponsored activities has been convicted of any of the following felony or misdemeanor offenses: felony sex or violence offenses; other felony offenses or misdemeanor sex offenses within the past ten years.

The Contractor further understands and acknowledges (1) that if he or his agents make a materially false statement regarding any of the above offenses, he will be guilty of a Class 1 misdemeanor and may forfeit profits derived from the contract. Further, the Contractor understands and acknowledges that before any person is permitted to provide such services subsequent to this certification, he must complete a new certification regarding such person in a form satisfactory to Roanoke County and the Roanoke County School Board. Data and Conviction information will be requested before the County of Roanoke/Schools enters into a contract / when required.

SECTION 24. ASSIGNMENT.

Contractor may not assign or transfer this Contract in whole or in part except with the prior written consent of the County. If consent to assign is given, no such assignment shall in any way release or relieve the Contractor from any of the covenants or undertakings contained in this Contract and the Contractor shall remain liable for the Contract during the entire term thereof.

SECTION 25. CONTRACTUAL DISPUTES.

Contractual claims, whether for money or for other relief, including any disputes as to change orders or extra work, shall be submitted, in writing, no later than sixty (60) calendar days after final payment or payment designated as a final payment; however, written notice of the Contractor's intention to file such claim must be given at the time of the occurrence or beginning of the work upon which the claim is based. Such notice is a condition precedent to the assertion of any such claim by the Contractor. A written decision upon any such claims will be made by the Board of Supervisors or its designee (hereafter "BOS"). The Contractor may not institute legal action prior to receipt of the County's decision on the claim unless the BOS fails to render such decision within ninety (90) calendar days from submittal of its claim. The decision of the BOS shall be final and conclusive unless the Contractor within six (6) months of the date of the final decision on a claim or from expiration of the 90 day time limit, whichever occurs first, initiates legal action as provided in Section 2.2-4364 of the Code of Virginia. Failure of the County to render a decision

within said ninety (90) calendar days shall not result in the Contractor being awarded the relief claimed nor shall it result in any other relief or penalty. The sole result of the County's failure to render a decision within said ninety (90) calendar days shall be Contractor's right to immediately institute legal action. No administrative appeals procedure pursuant to Section 2.2-4365 of the Code of Virginia has been established for contractual claims under this Contract.

SECTION 26. SUCCESSORS AND ASSIGNS.

The terms, conditions, provisions, and undertakings of this Contract shall be binding upon and inure to the benefit of each of the parties hereto and their respective successors and assigns.

SECTION 27. HEADINGS.

The captions and headings in this Contract are for convenience and reference purposes only and shall not affect in any way the meaning and interpretation of this Contract.

SECTION 28. COUNTERPART COPIES.

This Contract may be executed in any number of counterpart copies, each of which shall be deemed an original, but all of which together shall constitute a single instrument.

SECTION 29. AUTHORITY TO SIGN.

The persons who have executed this Contract represent and warrant that they are duly authorized to execute this Contract on behalf of the party for whom they are signing.

SECTION 30. NOTICES.

All notices must be given in writing and shall be deemed valid if sent by certified mail, return receipt requested, or by a nationally recognized overnight courier, with a receipt, addressed as follows (or any other address that the party to be notified may have designated to the sender by like notice):

To County: County of Roanoke
General Services
1216 Kessler Mill Rd
Salem, Virginia 24153
name@roanokecountyva.gov

Copy to: County of Roanoke
Purchasing Division
Attn: Neil Huss
5204 Bernard Drive, SW, Suite 300-F
Roanoke, Virginia 24018
nhuss@roanokecountyva.gov

If to Contractor:
Attn: _____, President/CEO

Email Address: _____
Phone: _____

Notices shall be deemed to be effective one day after sending if sent by overnight courier or three (3) days after sending it by certified mail, return receipt requested.

SECTION 31. PROTECTING PERSONS AND PROPERTY.

- A. **Protection on Site:** The Contractor expressly undertakes both directly and through its Subcontractor(s), to take every reasonable precaution at all times for the protection of all persons and property which may come on the jobsite or be affected by the Contractor's operation in connection with the Work.
- B. **Safety and Health Precautions:** The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety and health precautions and programs in connection with the Work, including but not limited to provision of appropriate sanitation facilities, if applicable.
- C. **Protecting the Public:** The Contractor shall in all cases protect the public and the Work, during its execution, by posting and maintaining, at its expense, appropriate signs, barricades, barriers, lights, flagmen, and other safety devices in accordance with the current edition of the "Virginia Work Area Protection Manual".
- D. **Protecting the Work and Adjacent Property:** The Contractor shall continuously maintain adequate protection of all the Work from damage and shall protect the County's property from injury or loss arising in connection with this Contract. The Contractor shall adequately protect adjacent property to prevent any damage to it or loss of use and enjoyment by its owners. The Contractor shall provide and maintain all passageways, guard fences, lights, and other facilities for protection required by public authority, local conditions, any of the Contract Documents or erected for the fulfillment of its obligations for the protection of persons and property.
- E. **Emergencies:** In an emergency affecting the safety or life of persons or of the Work, or of the adjoining property, the Contractor, without special instruction or authorization from County, shall act, at Contractor's discretion, to prevent such threatened loss or injury. Also, should Contractor, to prevent threatened loss or injury, be instructed or authorized to act by County, Contractor shall so act immediately, without appeal.

SECTION 32. CONTRACT SUBJECT TO FUNDING.

This Contract is subject to funding and/or appropriations from federal, state, and/or local governments and/or agencies. If any such funding is not provided, withdrawn, or otherwise not made available for this Contract, the Contractor agrees that the County may terminate this Contract on seven (7) days written notice to Contractor, without any penalty or damages being incurred by the County. Contractor further agrees to comply with any applicable requirements of any grants and/or agreements providing such funding.

SECTION 33. SUSPENSION OR TERMINATION OF CONTRACT BY COUNTY.

The County, at any time, may order Contractor to immediately stop work on this Contract, and/or by seven days (7) written notice may terminate this Contract, with or without cause, in whole or in part, at any time. Upon receipt of such notice, the Contractor shall immediately discontinue all services affected (unless the notice directs otherwise), and deliver to the County all data (including electronic data), drawings, specifications, reports, project deliverables, estimates, summaries, and such other information and materials as may have been accumulated by the Contractor in performing this Contract whether completed or in process (unless otherwise directed by the notice).

- A. If the termination or stop work order is due to the failure of the Contractor to fulfill any of its Contract obligations, the County may take over the Work and prosecute the same to completion by contract or otherwise. In such case, the Contractor shall be liable to the County for any damages allowed by law, and upon demand of County shall promptly pay the same to County.

- B. Should the Contract be terminated or work is stopped not due in any way to the fault of the Contractor, the Contractor shall only be entitled to compensation for services actually performed and materials actually supplied prior to notice of termination or to stop work and which are approved by the County and any applicable federal or state approving agency. No profit, overhead, or any other costs of any type are allowed after the date of such notice of termination or stop work order.
- C. The rights and remedies of the County provided in this Section are in addition to any other rights and remedies provided by law or under this Contract and County may pursue any and all such rights and remedies against Contractor as it deems appropriate.

SECTION 34. ETHICS IN PUBLIC CONTRACTING.

The provisions, requirements, and prohibitions as contained in Sections 2.2-4367 through 2.2-4377, of the Va. Code, pertaining to bidders, offerors, contractors, and subcontractors are applicable to this Contract.

SECTION 35. COMPLIANCE WITH STATE LAW; FOREIGN AND DOMESTIC BUSINESSES AUTHORIZED TO TRANSACT BUSINESS IN THE COMMONWEALTH OF VIRGINIA.

Contractor shall comply with the provisions of Virginia Code Section 2.2-4311.2, as amended, which provides that a contractor organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 or as otherwise required by law. Contractor shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the Contract. The County may void the Contract if the Contractor fails to remain in compliance with the provisions of this section.

SECTION 36. OWNERSHIP OF REPORTS AND DOCUMENTS.

Contractor agrees that all reports and any other documents (including electronic data) prepared for, obtained in connection with, and/or required to be produced in connection with this Contract shall be delivered by the Contractor to the County and all such items shall become the sole property of the County. The Contractor agrees that the County shall own all rights of any type in and to all such items, including but not limited to copyrights and trademarks, and the County may reproduce, copy, and use all such items as the County deems appropriate, without any restriction or limitation on their use and without any cost or charges to the County from Contractor. Contractor hereby transfers and assigns all such rights and items to the County. Contractor further agrees Contractor will take any action and execute any documents necessary to accomplish the provisions of this Section. The Contractor also warrants that Contractor has good title to all materials, equipment, documents, and supplies which it uses in the Work or for which it accepts payment in whole or in part.

SECTION 37. DEFINITIONS.

Whenever used in these General Conditions or in the Contract Documents, the following terms have the meanings indicated, which are applicable to both the singular and plural and the male and female gender thereof, and where applicable to any other legal entity such as a corporation, partnership, limited liability company, etc.

The section and paragraph headings are inserted for convenience only.

Architect, Engineer, Architect/Engineer or A/E: The term used to designate the Architect and/or the Engineer who contracts with the County to provide the Architectural and Engineering services for the project. The Architect/Engineer is a separate Contractor and is referred to herein as the Architect/Engineer or abbreviated as A/E. The

term includes any associates or consultants employed by the firm to assist in providing the A/E services.

Bidder: The person, firm, corporation, or other entity interested in submitting a bid for the Work to be performed.

Change Order: A document issued by County on or after the effective date of the Contract which is agreed to by the Contractor and approved by the County, and which authorizes an addition, deletion, or revision in the Work, including any adjustment in the Contract Price and/or the Contract Time.

County or Owner: The County of Roanoke, Virginia, (Includes any Agency that is represented by Roanoke County and sometimes also referred to as Buyer) or its authorized representative.

County Code: Refers to the Code of the County of Roanoke, as amended.

County Designee: The County of Roanoke's authorized representative.

Board of Supervisors: The County Board of Supervisors or authorized representative.

Code of Virginia: Refers to the Code of Virginia (1950), as amended. (Sometimes referred to as Va. Code or Virginia Code.)

Contract Documents: These documents include, but are not limited to, the Project Manual, Invitation to Bid, the Instructions to Bidders, the Bid Form, the Contract, the Bonds or other Bid Security, the Escrow Agreement, the General Conditions, Supplementary General Conditions, Special Conditions, the Specifications, Addenda or Change Orders, the Plans and Drawings, any Supplemental Drawings, and any additional documents incorporated by reference in the above.

Contract: The written agreement between the parties concerning the performance of the Work and consisting of the Contract Documents.

Contractor: The person, firm, corporation, or other entity entering into a contractual agreement with the County to perform the Work.

Defect, Defective, or Deficient: An adjective or noun which when modifying or referring to the word Work refers to Work or any part thereof that is unsatisfactory, faulty, or does not conform to the Contract Documents, or does not meet the requirements of any inspections, standards, tests, or approvals referred to in the Contract Documents.

Document(s): This term includes, but is not limited to: writings, drawings, items on which words, symbols, or marks are recorded; electronic data of any type; videotapes, recordings, photographs and negatives, digital or otherwise; and any other form of data, writing, or information compilation, however recorded or stored, and regardless of physical form or characteristics.

Final Acceptance: The County's acceptance of the project from the Contractor upon confirmation from County and the Contractor that the project is apparently complete in accordance with the Contract requirements.

Notice: All written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with the Contract requirements. Any written notice by either party to the Contract shall be sufficiently given if delivered to or at the last known business address of the person, firm, or corporation constituting the party to the Contract, or to his, her, their, or its authorized agent, representative, or officer.

Notice to Proceed: A written notice given by the County at the County's discretion to the Contractor fixing the date on which the Contract time will commence for the Contractor to begin the Work in accordance with the requirements of the Contract Documents.

Project Inspector: One or more individuals employed by the County to inspect the Work and/or to act as Resident Inspector to the extent required by the County. The County shall notify the Contractor of the appointment of such Project Inspector(s).

Provide: Shall mean to furnish and install ready for its intended use.

Subcontractor: A person, firm, partnership, corporation, or other entity having a direct contract with the Contractor or with any other Subcontractor for the performance of the Work. It includes one who provides on-site labor, but does not include one who only furnishes or supplies material for the project.

Submittals: All drawings, diagrams, illustrations, brochures, schedules, samples, electronic data and other data required by the Contract Documents which are specifically prepared by or for the Contractor, Subcontractor, or Supplier, and submitted by the Contractor to illustrate the material, equipment, or layouts, or some other portion of the Work.

Substantial Completion: The date certified by County when construction is sufficiently complete, in accordance with the Contract Documents, so the County can occupy or utilize the Work or designated portion thereof for the purposes for which it is intended.

Successful Bidder: The bidder to whom the County makes an award.

Supplier: A manufacturer, fabricator, distributor, material man, or vendor who provides only material or supplies for the project, but does not provide on-site labor.

Work or Project: The entire completed construction or the various separately identifiable parts thereof as required by the Contract Documents. Work is the result of performing services, furnishing labor, and furnishing and incorporating material and equipment into the construction.

SECTION 38. INDEMNITY PROVISION.

- A. **Indemnity:** Contractor shall indemnify and hold harmless County and its officers, agents, and employees against any and all liability, losses, damages, claims, causes of action, suits of any nature, costs, and expenses, including reasonable attorney's fees, resulting from or arising out of Contractor's or its employees', agents', or subcontractors' actions, activities, or omissions, negligent or otherwise, on or near County's property or easement, or arising in any way out of or resulting from any of the work to be provided under this Contract. This provision includes, without limitation, any fines or penalties, violations of federal, state, or local laws or regulations, personal injury, wrongful death, or property damage claims or suits, breach of contract claims, indemnity claims, and any other damages, losses, and/or claims of any type.
- B. **Hazardous Material:** While on County's property or easement and in its performance of this Contract, Contractor shall not transport, dispose of or release any hazardous substance, material, or waste, except as necessary in performance of its Work under this Contract and in any event Contractor shall comply with all federal, state, and local laws, rules, regulations, and ordinances controlling air, water, noise, solid wastes, and other pollution, and relating to the storage, transport, release, or disposal of hazardous material, substances or waste. Regardless of County's acquiescence, Contractor shall indemnify and hold County, its officers, agents, and employees harmless from all costs, claims, damages, causes of action, liabilities, fines or penalties, including reasonable attorney's fees, resulting from Contractor's violation of this paragraph and agrees to reimburse County for all costs and expenses incurred by County in eliminating or remedying such violations. Contractor also agrees to reimburse County and hold County, its officers, agents, and employees harmless from any and all costs, expenses, attorney's fees and all penalties or civil judgments obtained against the County as a result of Contractor's use or release of any hazardous substance or waste onto the ground, or into the water or air from or upon County's premises.
- C. **Patents:** The Contractor shall protect, indemnify, and hold harmless the County, its officers, agents and employees from any and all demands for fees, claims, suits, actions, causes of action, or judgments based on the alleged infringement or violation of any

patent, invention, article, trademark, arrangement, or other apparatus that may be used in the performance of the Contract or the Work.

SECTION 39. EMPLOYMENT AND CONDUCT OF PERSONNEL.

- A. **Employee Qualifications:** Only skilled and reliable workers shall be employed for the Work. Should any person employed on the Work by the Contractor appear to County to be incompetent, unable to perform the Work, or disorderly, such person shall be removed from the Work immediately upon proper notice to the Contractor from County and such person shall not again be used for this Contract.
- B. **Superintendence:** The Contractor shall have a competent foreman or superintendent, subject to County's approval, which shall not be unreasonably withheld, on the jobsite at all times during the progress of the Work. The Contractor shall notify the County, in writing, of any proposed change in the foreman or superintendent including the reason therefore prior to making such change.
- C. **Drug-free Workplace:** During the performance of this Contract, the Contractor agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order over \$5,000, so that the provisions will be binding upon each subcontractor or vendor.
 - a. For the purpose of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the Contract.

The Contractor shall post a copy of the policy in a conspicuous place at the jobsite and assure that all Contractor, subcontractor, and supplier personnel entering the jobsite are informed of the policy.

SECTION 40. SUBCONTRACTORS.

- A. **Licensure:** The Contractor shall comply with Title 54.1, Chapter 11, of the Code of Virginia, with respect to licensure of itself and all subcontractors employed to work on the project. The Contractor represents that it has verified that all subcontractors hold all required state and local licenses, including State Contractor's license and County business license. The Contractor shall verify that any additional subcontractors employed to work on the project, subsequent to the initial verification, hold all required state and local licenses, including State Contractor's license and County business license. The Contractor is required to submit the Contractor's Certification as to Licensure of Subcontractors Form to County. This constitutes a material part of the Contractor's Contract with the County.
- B. **Change of Subcontractors:** Subcontractors shall not be changed without the written approval of County.
- C. **Responsibility for Subcontractors:** The Contractor shall not employ for the project any subcontractor that the County may, within a reasonable time, object to as unsuitable. The Contractor further agrees that it is as fully responsible to the County for the acts and

omissions of its subcontractors, suppliers, and invitees on the jobsite and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by it.

SECTION 41. CONDITIONS AT SITE.

- A. **Existing Conditions:** The Contractor shall have visited the site prior to bidding and is responsible for having ascertained pertinent local conditions such as location, accessibility, and general character of the site, and the character and extent of existing improvements and work within or adjacent to the site. Claims as a result of failure to have done so will not be considered by the County and will be the sole responsibility of the Contractor.
- B. **Hidden Conditions:** If, in the performance of the Contract, hidden physical conditions of a building being modified are exposed revealing unusual or materially different conditions than those ordinarily encountered or inherent in work of this nature, or if subsurface or latent conditions at the site are found which are materially different from those frequently present in the locality, from those indicated in the Contract Documents, or from those inherent in work of the character required by the Contract, the Contractor must report such conditions to County before the conditions are disturbed. Upon such notice, or upon his own observation of such conditions, County will make such changes in the Contract Documents as he finds necessary to conform to the different conditions. Any change in the cost of the Work or the time needed for completion must be requested pursuant to Section 19 of these General Conditions.
- C. **Suspected Hazardous Material:** If the Contractor, during the course of the project, observes the existence of any material which it suspects or knows to be hazardous to human health or the environment, the Contractor shall promptly notify County. County will provide the Contractor with instructions regarding the situation. The Contractor shall not perform any work involving the material or any work causing the material to be less accessible prior to receipt of special instructions from County.

SECTION 42. SURVEYS AND LAYOUT.

- A. **Surveying Services:** All necessary drawings showing the location of property lines, buildings, and other appropriate information shall be furnished to the Contractor through the drawings and specifications. The Contractor shall provide competent surveying and engineering services to verify the given information and to execute the Work in accordance with the Contract requirements and shall be responsible for the accuracy of Contractor's surveying and engineering services. The Contractor shall immediately notify County of any discrepancies and confirm such notice in writing within five (5) calendar days.
- B. **Survey Control:** Such general reference points and bench marks on the building site as will enable the Contractor to proceed with the Work will be established in the drawings and specifications. If the Contractor finds that any previously established reference points have been lost or destroyed, Contractor shall promptly notify County.
- C. **Damage to Survey Control:** The Contractor shall protect and preserve the established bench marks and monuments and shall make no changes in locations without written notice to and approval from County. Any of these which may be lost or destroyed or which require shifting because of necessary changes in grades or locations shall, subject to prior approval from County, be replaced and accurately located by the Contractor.

SECTION 43. DRAWINGS AND SPECIFICATIONS.

- A. **Drawings and Specifications:** The general character and scope of the Work are illustrated by the drawings and specifications. Where on any of the drawings a portion of the Work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to all other like portions of the Work. If the Contractor deems additional detail or information to be necessary, Contractor may request the same in writing from County. The Contractor shall carry out the Work in accordance with the drawings and specifications and any additional detail drawings and instructions as issued by County. However, Contractor shall immediately notify County of any discrepancies in such drawings and/or specifications and confirm such notice in writing within five (5) calendar days.
- B. **Discrepancies in Drawings:** In case of difference between small and large scale drawings, the large scale drawings shall govern, unless otherwise directed in writing by County.
- C. **"Similar":** Where the word "similar" appears on the drawings, it shall be interpreted in its general sense and not as meaning identical, and all details shall be worked out in relation to their location and their connection with other parts of the Work.
- D. **Division of Specifications:** The specifications are divided into several parts for convenience only, since the entire specifications must be considered as a whole. The divisions of the specifications are not intended to control the Contractor in dividing the work among subcontractors or to limit the work performed by any trade. The Contractor shall be responsible for the coordination of the trades, subcontractors, and vendors engaged upon this Work.
- E. **Dimension Accuracy:** Measurements or dimensions shown on the drawings for site features, utilities, and structures shall be verified at the site by the Contractor. The location of underground utilities indicated on the plans is diagrammatic, plotted from available records and field survey information, and shall be considered approximate only, and the County makes no representations with regard to their accuracy. The Contractor shall not scale measurements or dimensions from the drawings. Where there are discrepancies, County shall be consulted. Where new work is to connect to, match with, or be provided for existing work, the Contractor shall verify the actual existing conditions and related dimensions prior to ordering or fabrication, so that such new work will properly fit with existing work.
- F. **As-Built Drawings:** The Contractor shall maintain at the site for the County one copy of all drawings, specifications, addenda, approved shop or setting drawings, change orders, field deviations, and other documents or modifications (referred to herein as "As-Built Drawings") in good order and marked to record all changes as they occur during construction. These shall be available to County, the Project Inspector, and the County's testing personnel. These "As-Built Drawings" shall be neatly and clearly marked in color during construction to record all variations from the drawings made during construction. The representation of such variations shall include such supplementary notes, symbols, legends, documents, and details as may be necessary to clearly show the as-built construction.
- G. **Record Drawings:** Upon completion of the Work and prior to Final Acceptance, the Contractor shall deliver to County, for preparation of the Record Drawings, one complete set of "As-Built Drawings" and documents referred to in Section 10.6.

SECTION 44. SCHEDULE OF THE WORK.

- A. **Scheduling:** The Contractor is responsible for the sequencing, scheduling, and coordinating of the Work, for monitoring the progress of the Work, and for taking appropriate action to keep the Work on schedule. The Contractor is responsible for coordinating Contractor's work on the Project with any other work being carried on by

the County or by other County consultants or contractors at the site or for the Project. The Contractor shall prepare and submit to County a schedule for accomplishing the Work based upon the completion time stated in the Contract and submit such to County at the pre-construction conference. No progress payments will be made to the Contractor until after Contractor has submitted a schedule which is acceptable to County. All schedules under Section 11 shall be in both paper and electronic form unless otherwise directed by County.

B. **Progress:** The Contractor shall review the progress of the Work not less than each month, but as often as necessary to properly manage the project and stay on schedule. The Contractor shall collect and preserve information on Change Orders, including extensions of time. The Contractor shall evaluate this information and update the schedule monthly to finish within the contractually allowed time. The Contractor shall submit the updated schedule with each progress payment request. The scheduled completion date shall be within the period of time allowed by the Contract for completion of construction, except as amended by any Change Orders.

C. **Delay and Recovery Schedule:** Should there be any delay; County may require the Contractor to prepare, at no extra cost to the County, a plan of action and a recovery schedule for completing the Work by the contractual completion date.

i. The plan of action and recovery schedule shall set forth how the Contractor intends to comply with the original schedule. The plan of action and recovery schedule, when required, shall be submitted and approved by County prior to Contractor's submission of the next monthly construction estimate. The County may withhold progress payments until such schedule is submitted and approved.

SECTION 45. CONSTRUCTION SUPERVISION.

The Contractor shall be solely responsible to supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract. The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The Contractor is solely responsible to the County that the finished Work complies with the Contract Documents. The Contractor shall be solely responsible for health and safety precautions and programs for its workers, and subcontractors, agents and assigns with the Work. No inspection by, knowledge on the part of, or acquiescence by the County, or any other entity whatever shall relieve the Contractor from its sole responsibility for compliance with the requirements of the Contract or responsibility for health and safety programs and precautions.

SECTION 46. STANDARDS FOR MATERIAL INSTALLATION AND WORKMANSHIP.

A. **Material and Equipment:** Unless otherwise specifically provided in this Contract, all equipment, material, and accessories incorporated in the Work are to be new and in first class condition. The Contractor shall furnish to County for approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the Work. Machinery, equipment, material, and articles installed or used without required approval may be subject to subsequent rejection by the County.

B. **Hazardous Substances:** Unless specifically approved by the County or required by the specifications, the Contractor shall not incorporate any material into the Work that contains asbestos or any material known by the Contractor to contain a substance known to be hazardous to health when the building and/or site is occupied by the County. If the Contractor becomes aware that a material required by the specifications contains asbestos or other hazardous substances, it shall notify the County and County

immediately and shall take no further steps to acquire or install any such material without first obtaining County approval. (See also Sections 2.2 and 8.3 of these General Conditions.)

- C. **Workmanship:** The workmanship shall be of the highest quality found in the building industry in every respect. All items of Work shall be done by workers skilled in the particular task to which they are assigned. In the acceptance or rejection of work, no allowance will be made for lack of skill on the part of workers. Poor or inferior workmanship (as determined by County, or other inspecting authorities) shall be removed and replaced to conform to the highest quality standards of the trades concerned, or otherwise corrected to the satisfaction of the County, or other inspecting authority, at the Contractor's sole expense.
- D. **Instructions for Installation:** Under the various sections of the specifications, where specified items are supplied with the manufacturer's printed instructions, recommendations, or directions for installation, or where such instructions, recommendations, or directions are available, installation of the specified items shall be in strict accordance with the manufacturer's printed instructions unless those instructions contradict the drawings or specifications, in which case County will be notified by Contractor for an interpretation and decision.
- E. **Installation Procedures Without Instructions:** Where neither the manufacturer's printed instructions are available for installation of specific items, nor are specific code or standards given by reference to govern the installation of specific items; and where there is doubt concerning the installation procedures to be followed or the quality of workmanship to be maintained in the installation of specific items, the Contractor shall consult County for approval of the installation procedures Contractor proposes to follow or the specific standards governing the quality of workmanship Contractor proposes to maintain during the installation of the items in question.
- F. **Codes and Standards:** Under the various sections of the specifications, where reference is made to specific codes or standards governing the installation of specified items, installation shall in all cases be in strict accordance with the referenced codes and standards. Where no reference is made to specific codes or standards, installation shall conform to the generally recognized applicable standards for first-class installation of the specific item to be installed. Contractors are expected to be proficient and skilled in their respective trades and knowledgeable of the National Fire Protection Association (NFPA), the current edition of the Virginia Uniform Statewide Building Code (USBC) and its referenced technical codes and standards, Occupational Safety and Health Act (OSHA) and other codes and standards applicable to installations and associated work by its trade and/or that are applicable to the Work.

SECTION 47. SUBMITTALS.

- A. **General:** The Contractor shall submit for the approval of County all documents and/or materials required by the solicitation or requested by County. All such submissions shall be made with such promptness as to cause no delay in this or any other part of the project, and to allow reasonable time for checking, correcting, resubmitting, and re-correcting. No part of the Work dealt with by a submittal shall be fabricated by the Contractor, save at Contractor's own risk, until such approval has been given. The Contractor shall maintain one (1) set of approved submittals at the jobsite at all times.
- B. **Format:** Submissions shall be made in such number of copies that two (2) approved copies may be retained by County. Each submission shall be accompanied by a letter of transmittal listing the contents of the submission and identifying each item by reference to specification section or drawings. All submittals shall be clearly labeled with the name of the project and other necessary information. Catalog plates and other similar material

that cannot be so labeled conveniently, shall be bound in suitable covers bearing the identifying data.

C. **Supporting Material:** Submissions shall be accompanied by all required certifications and other such supporting material and documents, and shall be submitted in such sequence or in such groups that all related items may be checked together. When submittals cannot be checked because the submission is not complete, or because submittals on related items have not been received, then such submittals will be returned without action or will be held, not checked, until the material which was lacking is received.

D. **Coordination:** Contractor shall review and coordinate with all other related or affected work before they are submitted for approval, and shall bear the Contractor's certification that it has checked and approved them as complying with the information given in the Contract Documents. Submittals made without such certification and coordination will be returned to the Contractor without action, and will not be considered a formal submission. The Contractor shall be responsible for checking all dimensions and coordinating all material and trades to ensure that the material proposed will fit in the space available and be compatible with other material provided.

E. **Variations:** If the submissions show variations from the Contract Documents because of standard shop practice or other reasons, the Contractor shall make specific mention of such variation in Contractor's letter of transmittal so that, if acceptable, suitable action may be taken for proper adjustment; otherwise the Contractor will not be relieved of the responsibility for executing the Work in accordance with the Contract Documents even though such submittals have been approved.

F. **"Or Equal":** The drawings and/or specifications may indicate that County designed or detailed a portion of the plans around a particular product (most commonly a piece of equipment). Should a different product be proposed by the Contractor and accepted, all modifications, rerouting, relocations, and variations required for proper installation and coordination to comply with the design concept and requirements of the Contract Documents shall be the sole responsibility of the Contractor and shall be made at no extra cost to the County. This naming of a particular product, around which the plans were designed or detailed, is not intended to preclude the use of other products or favor the product named when a "brand name or equal" specification has been used. (See also Section 10 of Instructions to Bidders.) Rather it is only intended to acknowledge the reality that in many instances County must design around the dimensions and characteristics of a particular product.

G. **Review by County:** County will review and respond to the submittals within a reasonable time. Checking and/or approval of submittals will be for general conformance with the design concept of the project and compliance with the information given in the Contract Documents, and will not include verification of quantities, detailed dimensions, nor adjustments of dimensions to actual field conditions. Approval shall not be construed as permitting any departure from Contract requirements, authorizing any increase in price or time for completion or relieving the Contractor of the responsibility for any error in details, dimensions, or otherwise that may exist.

H. The Work shall be in accordance with approved submittals.

SECTION 48. INSPECTION AND INDEPENDENT TESTING.

A. **Inspection and Testing:** All material and workmanship shall be subject to inspection, examination, and testing by County at any and all times during manufacture and/or construction. County shall have authority to reject defective material and workmanship and require its correction. Rejected workmanship shall be corrected to the satisfaction of the County, and rejected material shall be replaced with proper material that is

satisfactory to the County, without charge therefore, and the Contractor shall promptly segregate and remove the rejected material from the premises. If the Contractor fails to proceed at once with replacement of rejected material and/or the correction of defective workmanship, the County may, by contract or otherwise, replace such material and/or correct such workmanship and charge the cost to the Contractor, and/or may terminate the right of the Contractor to proceed as provided in Sections 26 or 27 of these General Conditions, the Contractor and surety being liable for any damage to the same extent as provided for in those Sections.

B. Payment for Inspection, Testing, and Certification:

- i. Jobsite inspections, tests conducted on site, or tests of material gathered on site which the Contract requires to be performed by independent testing entities shall be contracted and paid for by the County. The Contractor shall promptly furnish, without additional charge, all reasonable facilities, labor, and material necessary for making such tests. Except as provided in Section 15.3 below, whenever such examination and testing finds defective material, equipment, or workmanship, the Contractor shall reimburse the County for the cost of reexamination and retesting.
- ii. Although conducted by independent testing entities, the County will not contract and pay for tests or certifications of material, manufactured products or assemblies which the Contract, codes, standards, etc. require to be tested and/or certified for compliance with industry standards by entities such as Underwriters Laboratories, Factory Mutual or ASTM. If there are any fees to be paid for such tests and certifications, they shall be paid by the Contractor.
- iii. The Contractor shall also pay for all inspections, tests, and certifications which the Contract specifically requires it to perform or pay, together with any inspections and tests which it chooses to perform for its own quality control purposes.

C. Examination of Completed Work: Should it be considered necessary or advisable by County at any time before final acceptance of the entire Work to examine any part of the Work already completed, by removing or tearing out portions of the Work, the Contractor shall on request promptly furnish all necessary facilities, labor, and material to expose the Work to be tested to the extent required. If such Work is found to be defective in any respect, due to the fault of the Contractor or its Subcontractors, Contractor shall pay for all the expenses of uncovering the Work, of examination and testing, and of satisfactory reconstruction. If, however, such Work is found to meet the requirements of the Contract, the actual cost of the Contractor's labor and material necessarily involved in uncovering the Work, the cost of examination and testing and Contractor's cost of material and labor necessary for replacement shall be paid to the Contractor and it shall, in addition, if completion of the Work has been delayed thereby, be granted a suitable extension of time.

D. Suspension of Work: The County may suspend the Work when in its judgment the drawings and specifications are not being followed. Any such suspension shall be issued in writing and continued only until the matter in question is resolved to the satisfaction of the County. The cost of any such Work stoppage shall be borne by the Contractor unless it is later determined that no fault existed in the Contractor's Work.

E. Project Inspector: Failure of the Project Inspector to note or require correction of improper or defective work does not relieve the Contractor from its responsibility to correct such improper or defective work. The Project Inspector has no authority to and shall not:

- i. Enter into the area of responsibility of the Contractor's superintendent;

- ii. Issue directions relative to any aspect of construction means, methods, techniques, sequences or procedures, or in regard to safety precautions and programs in connection with the Work;
- iii. Authorize or suggest that the County occupy the project, in whole or in part; or
- iv. Issue a certificate for payment.

SECTION 49. USE OF PREMISES AND REMOVAL OF DEBRIS

Jobsite Coordination: The Contractor shall perform the Contract in such a manner as not to interrupt or interfere with the operation of any existing activity on the premises or with the work of any other contractor.

Storage of Material: The Contractor shall store apparatus, material, supplies, and equipment in such orderly fashion at the site of the Work as will not unduly interfere with the progress of its Work or the work of any other contractor.

Jobsite Appearance: The Contractor expressly undertakes, either directly or through its Subcontractor(s), to clean up frequently all refuse, rubbish, scrap material, and debris caused by his operations, to the end that at all times the jobsite shall present a neat, orderly, and workmanlike appearance. No such refuse, rubbish, scrap material, and debris shall be left within the completed Work nor buried on the building site, but shall be properly protected and removed from the site and properly disposed of in a licensed landfill or otherwise as required by law.

Final Cleaning: The Contractor expressly undertakes, either directly or through its Subcontractor(s), before final payment, to remove all surplus material, false work, temporary structures, including foundations thereof, and debris of every nature resulting from its operations and to put the site in a neat, orderly condition, to thoroughly clean and leave reasonably dust free all finished surfaces including all equipment, piping, etc., on the interior of all buildings included in the Contract; and to thoroughly clean all glass installed under the Contract including the removal of all paint and mortar splatter and other defacements. If a Contractor fails to clean up at the completion of the Work, the County may do so and charge for costs thereof to the Contractor in accordance with these General Conditions.

Erosion Control: During and at completion of the Work, the Contractor shall prevent site soil erosion, the runoff of silt and/or debris carried by water from the site, and the blowing of dust or debris off the site in accordance with the applicable requirements and standards of the Virginia Erosion and Sediment Control Handbook, latest edition, and of the Contract Documents.

SECTION 50. DAMAGES TO THE WORK AREA

- A. **Damage to the Work:** The Contractor shall have charge of and be solely responsible for the entire Work and be liable for all damages to the Work including, but not limited to any of the damages hereafter mentioned, and to any property in the vicinity of the Work, until its completion and acceptance by County.
 - i. Where the work involves alterations, renovations, or modifications to any existing building, the Contractor shall familiarize itself with the structural condition of such building before proceeding with any work. It shall be the Contractor's responsibility to take all necessary safeguards to protect and maintain all parts of the building in a safe condition at all times during the process of construction and to protect from damage those portions of the building that are to remain.
 - ii. Under no condition shall any load be placed on any part of a building, whether new or existing, in excess of the load the structure will safely support, and no structural member(s) shall be cut or altered without the written consent of County.

- iii. The Contractor shall conduct all operations in such a manner as to avoid damage to existing work and surfaces within any existing building that are to remain. Any and all damaged work and surfaces shall be repaired, replaced, or restored to their original condition at the time when this work was started, and the expense of such work shall be borne by the Contractor.
- B. **Damage to Utilities:** The respective Utility Company shall be given a minimum of forty-eight (48) hours' notice prior to any adjustment of utilities, and the Contractor shall comply with the provisions of the Virginia Underground Utilities Damage Prevention Act, Section 56-265.14 et seq., of the Code of Virginia.
 - a. Damages that may occur to the utilities during the Work shall be the sole responsibility of the Contractor.
- C. **Relocation of Utilities:** Should any utilities require adjustment during the Work, it shall be the Contractor's responsibility to have such utilities relocated as a part of the Work and to contact and cooperate with the respective Utility Company in performance of such operations.
- D. **Damage to Other Work and Existing Structures:** The Contractor shall take into account all other work which shall be done by other parties on the jobsite, either now known or which may become necessary during the progress of the Work, and shall be responsible for any damage done to the other work. Damage to concrete curbs, gutters, sidewalks, or any existing facility that may occur during the construction shall be repaired or replaced by the Contractor, at its sole expense, as directed by and to the satisfaction of County.
- E. **Weather Damage:** Damage with respect to the Work caused by the weather shall be the responsibility of the Contractor.
- F. **Blasting:** Any damage that may occur due to blasting shall be the sole responsibility of the Contractor.

SECTION 51. CHANGES IN THE WORK

- A. **Changes in Drawings and Specifications:** The County reserves the right to make such changes in the drawings and specifications and in the character of the Work as may be necessary or desirable to ensure completion in the most satisfactory manner, provided such changes do not materially alter the original plans and specifications or change the general nature of the Work as a whole. Such changes shall not be considered as waiving or invalidating any condition or provision of the Contract and Bonds. Such changes shall be issued in writing, by County to Contractor.
- B. **Changes in Quantities:** The County reserves the right to make changes in the quantities of the Work, as may be considered necessary or desirable and such changes shall not be considered as waiving or invalidating any conditions or provisions of the Contract or Bonds. The Contractor shall perform the Work as altered, whether increased or decreased, and no allowances shall be made for anticipated profits. Payment to the Contractor for the changes in the quantities of work shall be made only for the actual quantities of work performed and material furnished at the unit prices set forth in the Contract, except as provided below.
 - i. When the quantity of work to be done or of material to be furnished under any item of the Contract is more than 125 percent of the quantity stated in the Contract, either party to the Contract, upon demand, shall be entitled to negotiate for revised consideration on the portion of work above 125 percent of the quantity stated in the Contract.
 - ii. When the quantity of work to be done or of material to be furnished under any item of the Contract is less than 75 percent of the quantity stated in the Contract,

then either party to the Contract, upon demand, shall be entitled to negotiate for revised consideration on the Work performed.

iii. Any consideration after that as set forth above shall be paid for as is hereinafter provided under Section 19.7. The foregoing notwithstanding, the quantity of work to be done or of material to be furnished under any item of the Contract, or the total original Contract shall not be increased more than 25 percent or reduced by more than 25 percent without the written consent of the Contractor and County.

C. **Changes in the Work:** No change with respect to the Work, except in an emergency situation threatening life or property, shall be made by the Contractor without the prior written approval of the County. The Contractor shall deliver any request for a change in the Work, Contract price, and/or completion time in writing to County within ten (10) calendar days of the occurrence requiring the change. The Contractor shall be required to certify the cause of the change order and, if appropriate, length of time involved. Payment for such changes approved by County shall be as set forth in Section 19.7. This written request is a condition precedent to the consideration of any such request by the County.

D. **Delays:**

- i. In the event a delay is caused by the County, any other separate contractor employed by the County, or any party for whom the Contractor deems the County responsible, or the agents and employees of any of them, the Contractor shall inform the County immediately at the time of the occurrence by the fastest means available and shall give written notice within a reasonable time, not to exceed ten (10) calendar days. The Contractor's notice to County shall specify the nature of the delay claimed by the Contractor, the cause of the delay, and the impact of the delay on the Contractor's work schedule to the fullest extent possible. The County will, within a reasonable time, not to exceed ten (10) calendar days, respond to the Contractor's notice with a resolution, remedy, or direction to alleviate the delay or with a notice rejecting the claim for delay alleged to be caused by the County or parties for whom the County is responsible. If the delay is not then resolved, the Contractor may then submit a request for change order in accordance with Sections 19.3 and 19.5. In the event of other delays, the Contractor shall give the County written notice within ten (10) calendar days of the occurrence causing the delay.
- ii. No extension of time or compensation shall be allowed for a delay if the Contractor failed to give notice in the manner and within the time prescribed in Subsection 19.4 (a). Furthermore, no extension of time shall be given or additional compensation allowed for any delay unless a claim is made in writing to the County, within ten (10) calendar days of the occurrence causing the delay. The claim shall state the cause of the delay, the number of days of extension requested, and any compensation requested by the Contractor. The Contractor shall report the resumption of work to the County not less than ten (10) calendar days after work resumes. Failure to give notice of either the inception or the termination of the cause of delay or failure to present a claim for extension of time and/or monetary compensation within the times prescribed are conditions precedent to the assertion of any such claims by Contractor and shall constitute a waiver by Contractor of any such claims for compensation or extension based upon that cause.
- iii. Requests for compensation for delays must be substantiated by itemized data and records clearly showing that the work delayed was progressing according to the approved schedule and that the costs are directly attributable to the delay in

the Work claimed. The Contractor shall provide written schedules demonstrating how the Work being delayed affects the approved schedule.

iv. No extension of time, additional compensation, or change in the Contract price shall be allowed for any delays caused in whole or in part by the Contractor, any subcontractors, or any supplier. (For unavoidable justified delays, see Section 19.9 of these General Conditions.)

E. Change Orders: All change orders must indicate that the Contract Time for Completion is not changed or is either increased or decreased by a specific number of days. Any change or requested change in the Contract price shall also be included in the change order. The Contractor must provide written justification for an extension of the Time for Completion to County and to the County. The written justification must demonstrate an anticipated actual increase in the time required to complete the Work beyond that allowed by the Contract as adjusted by prior change orders or amendments to the Contract, not just an increase or decrease in the time needed to complete some portion of the total Work. When a Critical Path Method (CPM) schedule is required by the Contract, or is used for the convenience of the Contractor, no increase to the Time for Completion shall be allowed unless, and then only to the extent that, the additional or changed Work increases the length of the critical path. Approved increases in time required to complete the Work shall be added to the Time for Completion. Decreases in time as a result of the change order shall be demonstrated by a decrease in the critical path of the work if CPM scheduling is properly used and updated by the Contractor. If not, the County shall determine the appropriate decrease by the best means possible. Approved decreases in the time needed to complete the Work shall be deducted from the Contract completion date. The change to time or Contract price allowed by each change order shall include all time and monetary impacts of the change, whether the change order is considered alone or with all other changes during the course of the project. Failure to include a change to time and/or Contract price in a change order shall waive any claims the Contractor may have for any change to the time and/or Contract price unless the parties mutually agree in writing to postpone a determination of the change to time and price resulting from the change order. Such a determination may be postponed not more than forty-five (45) calendar days to give the Contractor an opportunity to demonstrate a change in the time and/or price needed to complete the Work. However, the Contractor shall continue with the Work as may be directed by County and shall not stop work on the Project unless directed to do so by County.

F. Extra Work: The County reserves the right to make alterations or changes in the Work as the Work progresses. When any work is necessary to the proper completion of the project which was not provided for in the Contract, the Contractor shall do such work, but only when and as ordered in writing by County. Payment for such extra work shall be made as hereinafter provided in Section 19.7.

G. Payment Methods for Extra Work: The extra work done by the Contractor as authorized and approved by County shall be paid for in the manner hereinafter described; and the compensation thus provided shall be accepted by the Contractor as payment in full for all labor, material, tools, equipment, incidentals, all superintendents' and timekeepers' services, all insurance, bonds, and all other reasonable overhead expenses incurred in the performance of the extra work. Payment for extra work may be made by one of the following methods, as agreed on in writing by County and the Contractor before said extra work is commenced, subject to all other conditions of the Contract:

- i. Unit prices; or
- ii. Lump sum price; or

- iii. The cost of change in work plus ten percent (10%) of allowable costs. Allowable costs for purposes of this paragraph shall only include labor, material, sales tax, the rental of power tools and equipment actually used, or a reasonable price for the use of power tools and equipment owned by the Contractor based upon their life expectancy and purchase price, utilities, pro rata charges for foremen, and all payroll charges such as employer's FICA contribution, Public Liability and Workers' Compensation Insurance, but only if all such costs are incurred as the direct result of the changes in the Work. The change in cost for labor and material bonds and for performance bonds relative to the value of the extra work shall be allowable cost but shall not be marked up. If any subcontractor at any tier does all or part of the Work, the subcontractor's markup on that Work shall be fixed at fifteen percent (15%) of the allowable cost as defined herein.
- H. **Disputed Claims for Extra Work:** If one of the payment methods set forth in Section 19.7 is not agreed on by County, the County may retain either an independent contractor to perform such extra work or use its own forces to perform such extra work and the Contractor shall cooperate fully with the independent contractor or County in its performance of the extra work. However, County may also direct Contractor to perform such extra work and any dispute will be handled as set forth in Section 31 of these General Conditions.
- I. **Change in Contract Time or Contract Price:** The Contractor may request an extension of time or change in the Contract price should the Work be obstructed or delayed by any justified unavoidable delays not caused in whole or in part by the Contractor, any subcontractor, or suppliers. However, delays caused by weather conditions will not be considered justified unavoidable delays unless they are caused by unusual weather as set forth in Section 4.2 of the Instructions to Bidders, in which case only an extension of time may be considered by County, but no additional compensation will be allowed for unusual weather. Furthermore, Contractor agrees that for any delays not caused by the County or any delays beyond the control of the County, no additional compensation will be due the Contractor and no change in the Contract price will be allowed by the County, only an extension of the Contract time will be considered by the County. The Contractor shall deliver requests for changes in the Contract price and/or completion time in writing to County within ten (10) calendar days of the occurrence requiring the change. Approved changes that alter the time of the Contract shall extend the completion time by a period equivalent to the certified time lost by such occurrence. No change in Contract price and/or completion time shall be allowed if the above notice has not been properly given, such notice being a condition precedent to any such request by the Contractor. However, the Contractor shall continue with the Work as may be directed by County and shall not stop work on the Project unless directed to do so by County.

SECTION 52. PAYMENT FOR WORK

- A. **Monthly Construction Estimates:** Monthly construction estimates shall be submitted to County, no more than once every thirty (30) calendar days.
- B. **Preparing Progress Payment Requests:** In preparing construction estimates, the Contractor may request a progress payment based on the actual percentage of work completed during the preceding month. The estimate shall contain a breakdown of the total Contract amount; to include a separate breakdown of all approved change orders, into principal items of construction, showing the estimated quantity, unit price, and total for each item. In preparing progress payment requests, the material delivered on the site and preparatory work done may be taken into consideration, if properly documented, or as may be required by County so that quantities can be verified. In addition to material delivered on the site, material such as large pieces of equipment and items purchased

specifically for the project, but stored off the site, may be considered for payment, provided prior written approval is given by County.

- C. **Progress Payments:** The County will make a progress payment to the Contractor on the basis of a duly certified and approved progress payment request for the work performed under the Contract. In the event that the County disagrees with the monthly construction progress payment request submitted by the Contractor, or in the event the As-Built Drawings are not being kept current, the County may withhold all or a portion of the progress payment until such dispute is resolved to the satisfaction of the County. If there are any objections or problems with the progress payment request, the County will notify the Contractor of such matters. If the progress payment request is approved by the County, payment will be made by the County to the Contractor not more than thirty (30) calendar days after such request has been approved. However, if there is an objection or problem with a progress payment request, the Contractor shall continue with the Work as may be directed by County and shall not stop work on the Project unless directed to do so by County. Any such disputes shall be handled as set forth in Section 31 of these General Conditions.
- D. **Retainage:** To ensure proper performance of the Contract, the County shall retain, unless stipulated otherwise, five percent (5%) of each progress payment until Final Acceptance of all work covered by the Contract. The Contractor may request that such retainage be paid into an escrow account on certain Contracts, pursuant to Section 2.2-4334 of the Code of Virginia. (See also Sections 6.2 and 14.6 of Instructions to Bidders.)
- E. **Ownership of Material and Work:** All material and work covered by progress payments shall become the property of the County. This provision shall not relieve the Contractor from the responsibility for all material and to maintain all completed work and to repair all damaged work. The Contractor shall not deem a progress payment as a waiver to complete the terms of the Contract or shift the risk of loss from the Contractor to the County. The Contractor warrants that Contractor has good title to all material, equipment, and supplies which Contractor uses in the Work or for which Contractor accepts payment in whole or in part.
- F. **Payments to Others by Contractor:** The Contractor agrees that Contractor will comply with the requirements of Section 2.2-4354 of the Code of Virginia regarding Contractor's payment to other entities and that Contractor will take one of the two actions permitted therein within seven (7) calendar days after receipt of amounts paid to Contractor by the County. The Contractor agrees that Contractor shall indemnify and hold the County, its governing body, officers, agents, and employees harmless for any lawful claims resulting from failure of the Contractor to make prompt payments to all persons supplying him equipment, labor, tools, or material in prosecution and completion of the Work provided for in the Contract. In the event of such claims, the County may, after providing written notice to the Contractor, withhold from any progress and/or final payment the unpaid sum of money deemed sufficient to pay all lawful claims and associated costs in connection with the Contract.
- G. **Final Payment:** Within thirty (30) calendar days after the Final Acceptance of the Work, the County shall pay the Contractor the Final Payment, less all prior payments, damages, setoffs, liquidated damages, any amounts withheld from retainage, or any other amounts Contractor may owe the County for any reason whatever.
- H. **Payment and Acceptance:** No payment, final or otherwise, nor partial or entire use, occupancy, or acceptances of the Work by the County shall be an acceptance of any work or material not in accordance with the Contract, nor shall the same relieve the Contractor of any responsibility for any faulty material or workmanship or operate to release the Contractor or its surety from any obligation under the Contract or the Performance Bond or the Labor and Material Payment Bond.

- I. **Right to Audit:** The Contractor agrees that the County, and any approving Federal or State Agency or any of their duly authorized representatives, shall have access to any books, documents, papers, records, schedules and electronic data of the Contractor which are pertinent to this Project for the purpose of making an audit, examinations, excerpts, copies or transcriptions and that Contractor will provide copies of such items to County upon County's request, at no cost to County.

SECTION 53. LIQUIDATED DAMAGES

If liquidated damages are provided by the Contract, the following provisions shall apply:

- i. Subject to the provisions of the General Conditions granted for extension of time allowed for completion of the Work, if the Work is not substantially completed by the date required in the Contract, the Contractor shall owe to the County, not as a penalty but as step one liquidated damages, the sum stated in the Contract for step one liquidated damages for each and every calendar day of delay in substantial completion.
- ii. Once the Work is substantially complete, the accrual of step one liquidated damages shall stop and the Contractor shall have thirty (30) calendar days in which to achieve Final Acceptance of the Work.
- iii. If Final Acceptance of the Work is not achieved by the thirtieth (30th) calendar day after substantial completion, and if any extension of time is not granted by the County, the Contractor shall owe to the County, not as a penalty but as step two liquidated damages, the sum stated in the Contract as step two liquidated damages for each and every calendar day of delay in Final Acceptance. All such liquidated damages set forth in this Section are in addition to any other damages the County may be entitled to recover from the Contractor.

SECTION 54. INSPECTION FOR SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE

- A. **Substantial Completion:** The Contractor shall notify the County, in writing, that the Work will be ready for inspection to determine if it is substantially complete and ready for testing on or after a certain date, which date shall be stated in the notice. The notice shall be given at least ten (10) calendar days in advance of said date and shall be forwarded through County. Inspection and testing shall take place at a time mutually agreeable to the Contractor and County. The inspection shall determine if substantial completion has been accomplished. If so, County will issue a Certificate of Substantial Completion and attach a written list of unfinished Work and defective Work, commonly referred to as a "punch list", which must be finished and corrected to obtain Final Acceptance.
- B. **Request for Final Acceptance:** The Contractor shall notify County, in writing, that the Work will be ready for final inspection and testing on or after a certain date, which date shall be stated in the notice. That inspection and any necessary testing shall be conducted in the same manner as the inspection for substantial completion. When the Work is finally and totally complete, including the elimination of all known deficiencies, the Work shall be finally accepted by the County and final payment shall be made in accordance with Section 20.7 of these General Conditions.
- C. **Final Inspection:** County will conduct the final inspection, and may elect to have other persons of its choosing also participate in the inspection. If re-inspection is required, the Contractor shall reimburse the County for all costs of re-inspection or, at the County's option, the costs may be deducted from payments due to the Contractor.
- D. **As-Built Drawings:** No Contract retainage will be released prior to receipt of all approved As-Built Drawings.

- E. **Final Acceptance:** Upon successful completion of the final inspection and all Work required by the Contract, including but not limited to the delivery of the following documents and items; As-Built drawings, operation and maintenance manuals, written warranties, Certificate of Substantial Completion, Affidavit of Payment of Claims, and MBE/WBE/SB/VB Usage Status Form, County will furnish a written Certificate of Final Acceptance of the Work to the Contractor. County may accept the Work for occupancy or use while asserting claims against the Contractor, disputing the amount of compensation due to the Contractor, disputing the quality of the Work, its completion, or its compliance with the Contract Documents, and the like.
- F. **Release By Contractor:** The acceptance by the Contractor of the final payment or a payment designated as such shall be and does operate as a release by the Contractor of all claims by the Contractor against County and of all other liability of the County to the Contractor whatever, including liability for all things done or furnished in connection with the Work or the Contract.

SECTION 55. GUARANTEE OF WORK

- A. **Two Year Warranty:** The Contractor does warrant and guarantee the Work against defects or deficiencies in the Work and in all material, equipment, and workmanship for a period of two (2) years from the date of Final Acceptance.
- B. **Defective Work:** The Contractor agrees it shall repair or replace, at Contractor's sole expense, and to the satisfaction of County, any work, material, equipment, or part that is found, by County, to be defective.
- C. **Repairs:** If, within any guarantee period, defects are noticed by County which require repairs or changes in connection with the guaranteed work, those repairs or changes being in the determination of County rendered necessary as the result of the use of material, equipment, or workmanship which is defective, inferior, or not in accordance with the terms of the Contract, then the Contractor shall, promptly upon receipt of notice from County, such notice being given not more than four weeks after the expiration of any such guarantee period, and without any expense to the County:
 - i. Place in satisfactory condition all guaranteed work and correct all defects therein; and
 - ii. Make good all damage to the structure, site, equipment, or contents thereof, which in the determination of County is the result of the use of material, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract; and
 - iii. Make good any work or material or the equipment and contents of structures or the site disturbed in fulfilling any such guarantee.
- D. **Warranty Extension:** In any case, where in fulfilling the requirements of the Contract or any guarantee embraced in or required thereby, the Contractor disturbs, damages or repairs any work guaranteed under the Contract, Contractor shall restore such work to a condition satisfactory to County and guarantee such restored work to the same extent and for a like additional period of time as it was originally guaranteed under this Contract.
- E. The Design-Builder agrees to assign to Roanoke County at the time of final completion of the Work all manufacturer's warranties relating to equipment, materials, and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties. If necessary as a matter of law, the Design-Builder may retain the right to enforce directly any such manufacturers' warranties during the one-year period following the date of Substantial Completion.
- F. **Correction of Defects:** If the Contractor, after notice, fails to proceed promptly, but in no event longer than thirty (30) calendar days after such notice, unless otherwise agreed

to by County, to comply with the terms of the guarantee and/or correct the Work, the County may have the defects corrected by its own forces or another contractor and the Contractor and its surety shall be liable for all costs and expenses incurred in doing so.

G. Nothing contained in this section shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents or the law of Virginia, including liability for defective work.

SECTION 56. STOP WORK ORDER

In the event that conditions exist such that no work can or should continue, other than the routine closing of the site, the Contractor may submit to County a request to stop work or County on its own may issue a Stop Work Order. County designee will, if he/she approves the request or issues the order himself/herself, deliver a written "Stop Work Order" to the Contractor stipulating the effective date and the Contract time remaining. The Work, other than the routine closing of the site, and Contract time shall not again be started until a written "Resume Work Order" is received by the Contractor from County. When the Work is stopped at the request of the Contractor and through no fault of the Contractor, the Contractor may only recover from the County payment for the cost of the Work actually performed, together with reasonable overhead and profit thereon up to that time, but profit shall be recovered only to the extent that the Contractor can demonstrate that it would have had profit on the entire Contract if it had completed the Work. The Contractor may not receive profit or any other type of compensation for parts of the Work not performed, including, but not limited to, home office overhead or any other such costs. The Contractor may also recover the actual cost of physically closing down the jobsite, but no other costs of the Stop Work Order. The County may offset any claims it may have against the Contractor against the amounts due to the Contractor. In no event shall the Stop Work Order to the Contractor relieve in any way the obligations of the Contractor's surety on its payment and performance bonds. When work is stopped by County due to any fault of the Contractor, the Contractor may not recover any of the above costs or items or any other costs, profits, expenses, or damages of any type.

SECTION 57. TERMINATION OF CONTRACT FOR CAUSE

A. **Termination for Cause:** If the Contractor should be adjudged a bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, the County may terminate the Contract. If the Contractor should refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper material, or if it should fail to make prompt payment to subcontractors or suppliers of material or labor, or disregard laws, ordinances, or the written instructions of County, or otherwise fails to comply with any of the terms or provisions of this Contract including, but not limited to, poor services, deficient work or material, the County may terminate this Contract. In no event shall termination for cause terminate the obligations of the Contractor's surety on its payment and performance bonds.

B. **Possession of Work:** Upon termination of the Contract, the County may take possession of the premises and of all material, tools, and appliances thereon and finish the Work by whatever method the County may deem expedient. In such case the Contractor shall not be entitled to receive any further payment of any type. If the expense of finishing the Work, including compensation for additional managerial and administrative services, shall exceed the unpaid balance of the Contract price, the Contractor shall pay the difference to the County, together with any other cost or expenses of terminating the Contract and having it completed by others, together with any and all other damages County may be entitled to from the Contractor.

SECTION 58. TERMINATION FOR CONVENIENCE OF COUNTY

A. **Termination for Convenience:** The County, at its discretion, may terminate this Contract at any time without cause, in whole or in part, upon giving the Contractor 7 days written notice of such termination. Upon such termination, the Contractor shall immediately cease work and remove from the jobsite all of its labor forces, equipment, and material as County elect not to purchase or to assume in the manner hereinafter provided. Upon such termination, the Contractor shall take such steps as County may require assigning to the County the Contractor's interest in all subcontracts and purchase orders designated by County. After all such steps have been taken to County's satisfaction; the Contractor shall receive as full compensation for termination and assignment only the following:

- i. All amounts then otherwise due under the terms of this Contract for actual work performed and approved by County; and
- ii. Reasonable compensation for the actual cost of demobilization incurred by the Contractor as a direct result of such termination. The Contractor shall not be entitled to any compensation for lost profits or for any other type of contractual compensation or damage, other than those provided by the preceding sentence, including any on site or home office overhead. Upon payment of the foregoing, County shall have no further liabilities or obligations to Contractor of any nature.

B. **Termination Effect on Surety:** In no event shall termination for the convenience of the County terminate the obligation of the Contractor's surety on its payment and performance bonds.

SECTION 59. PRECONSTRUCTION CONFERENCE

County shall notify the Contractor as to the location, date, and time of a preconstruction conference to confirm procedures for processing construction estimates for payment and related submissions and to discuss other matters pertaining to scheduling and execution of the Work.

SECTION 60. PROJECT SIGN(S)

The Contractor shall supply, erect, and maintain Project Sign(s) in accordance with the County of Roanoke Standard Detail. The sign(s) shall be located as directed by County. The Contractor shall not display any other signs or advertisements.

SECTION 61. ENTIRE CONTRACT.

This Contract, including any attachments, exhibits, and referenced documents, constitutes the complete understanding between the parties. This Contract may be modified only by written agreement properly executed by the parties.

SIGNATURE PAGE TO FOLLOW.

THIS AGREEMENT may be modified in writing by mutual agreement of both parties.

IN WITNESS WHEREOF, the parties hereto have signed this Contract by their authorized representatives.

(Full Legal Name of Consultant)

By _____

Printed Name and Title

Roanoke County Board of Supervisors

By _____

Printed Name and Title

Approved as to execution:

County Attorney/Assistant County Attorney

CONTRACT 2023-033
BETWEEN COUNTY OF ROANOKE AND [VENDOR NAME]
FOR BENT MOUNTAIN CENTER ROOF TRIM REPLACEMENT

EXHIBIT 1: SAMPLE CONTRACTOR'S INSURANCE AND BOND REQUIREMENTS

REFERENCE: IFB # 2023-033

INSURANCE REQUIREMENTS SECTION

The Contractor shall comply with the insurance requirements set forth in the Contract, including the items set forth below:

- A. Neither the Contractor nor any subcontractor shall commence work under this Contract until the Contractor has obtained and provided proof of the required insurance coverages to the County, and such proof has been approved by the County. The Contractor confirms to the County that all subcontractors have provided Contractor with proof of such insurance, or will do so prior to commencing any work under this Contract.
- B. Contractor, including all subcontractors, shall, at its and/or their sole expense, obtain and maintain during the life of this Contract the insurance policies and/or coverages required by this section. The County and its officers, employees, agents, assigns, and volunteers shall be added as an additional insured to the general liability and automobile coverages of any such policies and such insurance coverages shall be primary and noncontributory to any insurance and/or self-insurance such additional insureds may have. The Contractor shall immediately notify in writing the County of any changes, modifications, and/or termination of any insurance coverages and/or policies required by this Contract. The Contractor shall provide to the County with the signed Contract an Acord certificate of insurance which states in the description of operations section one of the two paragraphs below:
 1. The County and its officers, employees, agents, assigns, and volunteers are additional insureds as coverage under this policy includes ISO endorsement CG 20 33 which provides that the insured status of such entities is automatic if required by a contract or a written agreement. (If additional insured status is automatic under a different coverage form, Contractor must attach a copy of the coverage form to its certificate. Any required insurance policies shall be effective prior to the beginning of any work or other performance by Contractor and any subcontractors under this Contract).

OR

2. ISO endorsement CG 20 10 will be issued, prior to the beginning of any work or other performance by Contractor under this Contract, to the County and its officers, employees, agents, assigns, and volunteers naming them as an additional insured under the general liability coverage. (A copy of the binder confirming the issuance must be attached to the certificate. Any required insurance policies shall be effective prior to the beginning of any work or other performance by Contractor and any subcontractors under this Contract).

However, if B (1) or (2) cannot be provided, the County's Risk Manager, in such Manager's sole discretion, may approve such other certificate of insurance or insurance document(s) that the Risk Manager deems acceptable. The County of Roanoke shall also be named as the Certificate Holder.

C. **The following insurance coverages and limits are required in order to provide services or materials to Roanoke County general government agencies and the Roanoke County Public Schools. These limits may be adjusted depending on the type of service or materials being provided and the exposure to risk.**

The Successful Offeror shall carry Liability Insurance in the amount specified below, including contractual liability assumed by the Successful Offeror, and shall deliver a Certificate of Insurance from carriers acceptable to the owner specifying such limits. The Certificate shall show the County of Roanoke and Roanoke County Public Schools, their supervisory boards and members thereof, officers, agents, employees and volunteers as an additional insureds on the Commercial General Liability, Automobile Liability and Excess/Umbrella Liability coverage. The additional insured status shall be endorsed to the coverage with the provision that this coverage "is primary to all other coverage the County of Roanoke and/or Roanoke County Public Schools may possess." A Certificate of Insurance evidencing the additional insured status must be presented to the County of Roanoke and/or Roanoke County Public Schools along with a copy of the Endorsement prior to work or services beginning.

The coverage shall be provided by a carrier(s) rated "Excellent" by A.M. Best. In addition, the insurer shall agree to give the County 30 days' notice of its decision to cancel coverage.

1. **Workers' Compensation**

Statutory Virginia Limits

Employers' Liability Insurance

- \$100,000 for each Accident by employee
- \$100,000 for each Disease by employee
- \$500,000 policy limit by Disease

2. **Commercial General Liability - Combined Single Limit**

- \$1,000,000 each occurrence including contractual liability for specified agreement
- \$2,000,000 General Aggregate (other than Products/Completed Operations)
- \$2,000,000 General Liability-Products/Completed Operations
- \$1,000,000 Personal and Advertising injury
- \$100,000 Fire Damage Legal Liability

Coverage must include Broad Form property damage and (XCU) Explosion, Collapse and Underground Coverage

3. **Business Automobile Liability** – including owned, non-owned and hired car coverage

- Combined Single Limit - \$1,000,000 each accident

4. **Additional Insurance Requirements**

Additional specific insurance coverage minimum requirements to be provided by Contractor may include the following as detailed in the Supplemental General Conditions:

- a. **Builders Risk:** At the discretion of the County, the Contractor, at its cost, shall obtain and maintain in the names of the County and the Contractor "all-risk" builders risk insurance (if approved by the County) upon the entire structure or structures on which the Work of this Contract is to be done and upon all material in or adjacent thereto or those that are "off-site" but which are intended for use thereon, to one hundred percent (100%) of the completed value thereof.
- b. **Property Coverage:** Installation Floater (and Rigger's Form, if applicable) will be required for the installation of contents or equipment; coverage will begin with

supplier and continue until equipment/contents have been fully installed. Floater will be valued for the replacement cost value of equipment/contents including all costs. The Contractor shall provide coverage for portions of the work stored off-site after written approval of the County at the value established in the approval and for portions of the work in transit.

- c. **Special Hazards:** In the event special hazards are evident in the work contemplated, or if required by the Contract Documents, the Contractor shall obtain and maintain during the life of the Contract a rider to the policy or policies required, in an amount not less than \$2,000,000. Should any unexpected special hazards be encountered during the performance of this Contract that could not have been reasonably foreseen, the Contractor shall, prior to performing any work involving the special hazard, immediately obtain this insurance as instructed by the County. In the event the special hazard requiring the additional coverage was not a part of the original bid, the expense of such insurance shall be reimbursed to the Contractor by the County, otherwise the Contractor shall assume full responsibility for the purchase with no charge back to the County.
- d. **Deductible:** Deductible/self-insured retention amounts shall be reduced or eliminated upon written request from County. The insurer's cost of defense (and appeal), including attorney's fees, shall not be included within the coverages provided but shall remain the insurer's responsibility.
- e. **Term:** Insurance shall remain in effect until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective work.
- f. **Limit of Liability:** Nothing contained in these insurance requirements is to be construed as limiting the liability of Contractor or Contractor's insurance carriers. County does not in any way represent that the coverage's or the limits of insurance specified is sufficient or adequate to protect Contractor's interests or liabilities, but are merely minimums. The obligation of the Contractor to purchase insurance herein shall not in any way limit the obligation of the Contractor in any event and/or in the event that the County should suffer an injury or loss in excess of the amount recoverable through insurance.
 - i. Contractual Liability covers the following indemnity agreement: "The Successful Offeror agrees to indemnify, defend and hold harmless the County of Roanoke and Roanoke County Public Schools, their supervisory boards and members thereof, officers, agents, employees and volunteers from any claims, damages, suits, actions, liabilities and costs of any kind or nature, including attorneys' fees, arising from or caused by the provision of any services, the failure to provide any services or the use of any services or materials furnished (or made available) by the Successful Offeror, provided that such liability is not attributable to the County or School Division's sole negligence."

D. **Contracts of \$100,000 or More:** The following minimum insurance requirements apply in addition to the above requirements:

1. Limits of Liability: For the Commercial General Liability policy:
 - a. \$1,000,000 each occurrence including contractual liability for specified agreement occurrence
 - b. \$2,000,000 General Aggregate (other than Products/Completed Operations)
 - c. \$2,000,000 General Liability-Products/Completed Operations
 - d. \$1,000,000 Personal and Advertising injury
 - e. \$ 100,000 Fire Damage Legal Liability

Coverage must include Broad Form property damage and (XCU) Explosion, Collapse and Underground Coverage.

Coverage is to be written on an "occurrence" and "per project" basis and such coverage shall include:

2. **Umbrella Liability Insurance:**

This coverage shall be written for minimum limit of:

- a. \$5,000,000 each occurrence for Personal and Bodily Injury and Property Damage

This Policy shall apply in excess and follow form of employer's liability, commercial general liability, and auto liability. The intent of this insurance specification is to provide the coverage required and the limits expected for each type of coverage. With regard to the Business Automobile Liability and Commercial General Liability, the total amount of coverage can be accomplished through any combination of primary and excess/umbrella insurance. However, the total insurance protection provided for Commercial General Liability or for Business Automobile Liability, either individually or in combination with the Excess/Umbrella Liability, must total \$5,000,000 per occurrence. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded the County of Roanoke and Roanoke County Public Schools. This policy shall be endorsed to be primary with respect to the additional insured.

E. **Contracts Less Than \$100,000:** The following minimum insurance limits apply unless specified otherwise in the Supplemental General Conditions:

1. **Limits of Liability:** For the Commercial General Liability policy:

- a. \$1,000,000 each occurrence including contractual liability for specified agreement occurrence
- b. \$1,000,000 General Aggregate (other than Products/Completed Operations)
- c. \$1,000,000 General Liability-Products/Completed Operations
- d. \$1,000,000 Personal and Advertising injury
- e. \$ 100,000 Fire Damage Legal Liability

Coverage must include Broad Form property damage and (XCU) Explosion, Collapse and Underground Coverage.

F. **Proof of Insurance Coverage:** The policies of insurance required by Sections 4.1, 4.2, or 4.3 shall be provided by a carrier(s) rated "Excellent" by A.M Best, licensed to do business in Virginia and maintained for the life of the Contract by the Contractor. Other insurance requirements include the following:

1. The Contractor shall furnish the County with the required certificates of insurance showing the insurer, type of insurance, policy number, policy term, deductible, and the amount insured for property coverage's and the limits for liability coverage's.
2. The Contractor shall notify County and Risk Manager in writing within thirty (30) consecutive calendar days if any of the insurance coverage's or policies are cancelled or materially altered and Contractor shall immediately replace such policies and provide documentation of such to County and Risk Manager.
3. The required insurance policies and coverages, excluding those for Workers' Compensation and Professional Liability, shall name the County of Roanoke, its governing body, officers, agents, volunteers and employees as additional insured and the certificate of insurance shall show if the policies provide such coverage. Waiver of subrogation is required with respect to any policy of workers' compensation and employers' liability insurance required under this Section. The certificate of insurance shall show if the policies provide such waiver. Additional insured and waiver endorsements shall be received by the County's Risk Manager from the insurer with the certificate of insurance unless the County's

Risk Manager agrees to another process. The County's Risk Manager may approve other documentation of such insurance coverages.

4. Insurance coverage shall be in a form and with an insurance company approved by the County which approval shall not be unreasonably withheld. Any insurance company providing coverage under this Contract shall be authorized to do business in the Commonwealth of Virginia.
5. The classification code numbers appearing on the Commercial General Liability coverage parts shall not exclude the symbols "X-C-U".
6. The certificate holders on the Accord form Certificates of Insurance shall be:

County of Roanoke Projects

Roanoke County Board of Supervisors
5204 Bernard Drive, Suite 300F
Roanoke, VA 24019-0798
Attn: Purchasing Dept.

Roanoke County Public Schools Projects

Roanoke County School Board
5937 Cove Road,
Roanoke, VA 24019
Attn: Purchasing Dept.

- G. Compliance by the Contractor with the foregoing requirements as to carrying insurance shall not relieve the Contractor of their liabilities provisions of the Contract
- H. Contractual Liability covers the following indemnity agreement: "The Successful Offeror agrees to indemnify, defend and hold harmless the County of Roanoke and Roanoke County Public Schools, their supervisory boards and members thereof, officers, agents, employees and volunteers from any claims, damages, suits, actions, liabilities and costs of any kind or nature, including attorneys' fees, arising from or caused by the provision of any services, the failure to provide any services or the use of any services or materials furnished (or made available) by the Successful Offeror, provided that such liability is not attributable to the County or School Division's sole negligence."
- I. The continued maintenance of the insurance policies and coverages required by the Agreement is a continuing obligation, and the lapse and/or termination of any such policies or coverages without approved replacement policies and/or coverages being obtained shall be grounds for termination of the Consultant/Contractor for default.
- J. Nothing contained in the insurance requirements is to be construed as limiting the liability of the Consultant/Contractor, and/or its subcontractors, or their insurance carriers. The County does not in any way represent that the coverages or the limits of insurance specified are sufficient or adequate to protect the Consultant/Contractor's interest or liabilities, but are merely minimums. The obligation of the Consultant/Contractor, and its subcontractors, to purchase insurance shall not in any way limit the obligations of the Consultant/Contractor in the event that the County or any of those named above should suffer any injury or loss in excess of the amount actually recoverable through insurance.
- K. The classification code numbers appearing on the Commercial General Liability coverage parts shall not exclude the symbols "X-C-U".
- L. The intent of this insurance specification is to provide the coverage required and the limits expected for each type of coverage. With regard to the Business Automobile Liability and Commercial General Liability, the total amount of coverage can be accomplished through any combination of primary and excess/umbrella insurance. However, the total insurance protection provided for Commercial General Liability or for Business Automobile Liability, either individually or in combination with the Excess/Umbrella Liability, must total \$1,000,000 per occurrence. This insurance shall apply as primary insurance with respect

to any other insurance or self-insurance programs afforded the County of Roanoke and Roanoke County Public Schools. This policy shall be endorsed to be primary with respect to the additional insured.

M. The certificate holders on the Accord form Certificates of Insurance shall be:

County of Roanoke Projects

Roanoke County Board of Supervisors

5204 Bernard Drive, Suite 300F

Roanoke, VA 24019-0798

Attn: Purchasing Dept.

N. **Claims Made Policies**

If the liability insurance has been issued on a "claims made" basis, the Successful Offeror must either:

1. Agree to provide certificates of insurance evidencing the above coverage for a period of three (3) years after final payment under the Agreement for General Liability policies. This certificate shall evidence a "retroactive date" no later than the beginning of the Offeror's work; or
2. Purchase the extended reporting period endorsement for the policies and provide certificates of insurance and a copy of the endorsement.

BOND REQUIREMENTS SECTION

The Contractor shall comply with the bond requirements set forth in the Contract, including the items set forth below:

A. Except in cases of emergency, all bids for construction contracts shall be accompanied by a bid bond from a surety company selected by the bidder, which is legally authorized to do business in Virginia.

1. A bid, payment or performance bond for contracts for goods or services other than construction may be required if provided in the Invitation for Bid.
2. The amount of the bid bond shall not exceed five percent (5%) of the total amount of the bid.
3. In lieu of a bid bond, a bidder may furnish a certified check or cash escrow in the face amount required for the bond.
4. Upon award of any public construction contract exceeding \$100,000 awarded to any prime contractor, such contractor shall furnish:
 - a. Performance bond in the sum of the contract amount.
 - b. Payment bond in the sum of the contract amount.
5. Performance and/or payment bonds may be required for construction contracts below \$100,000 at the discretion of the County.
6. In cases of emergency performance bonds/payment bonds are required within ten (10) calendar days of notice to proceed/project commencement.

END

CONTRACT 2023-033
BETWEEN COUNTY OF ROANOKE AND VENDOR NAME
FOR BENT MOUNTAIN CENTER ROOF TRIM REPLACEMENT

EXHIBIT 2: SCOPE OF WORK/FEE SCHEDULE

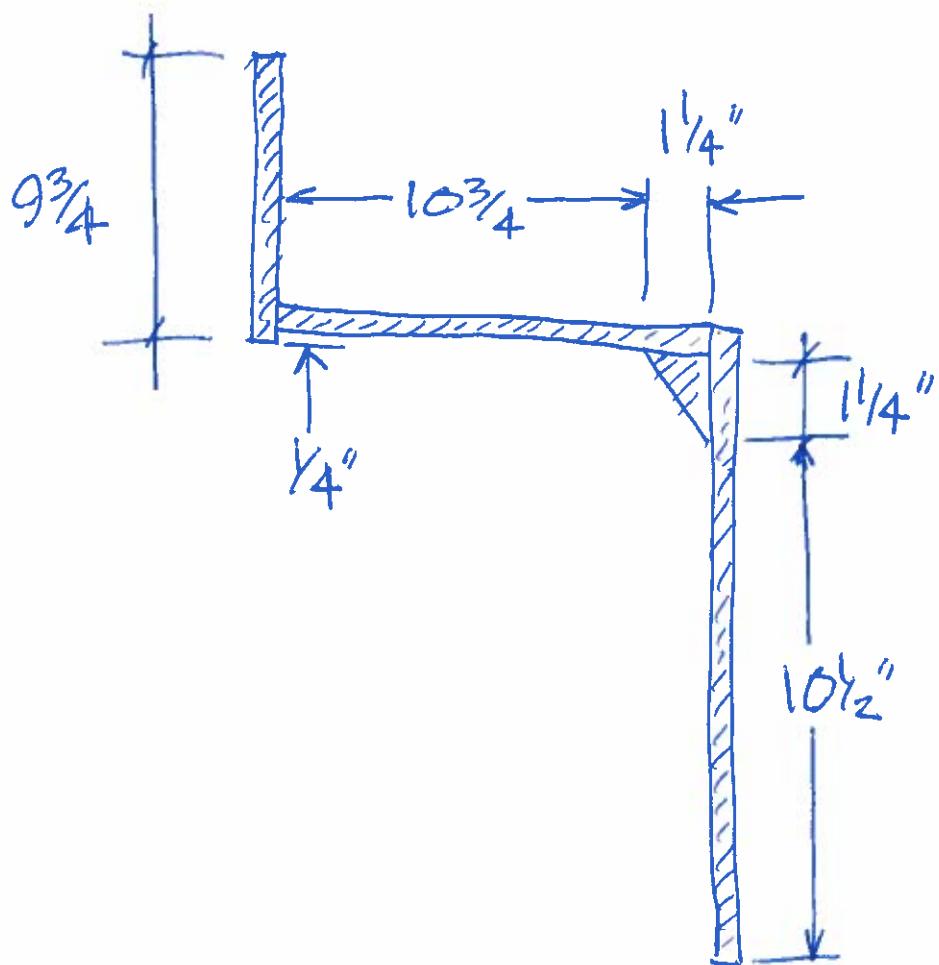
REFERENCE: IFB# 2023-033

The following are the services and/or items that the Successful Bidder will be required to provide and such services are to be included in the bids.

The services, work, and/or items that the Contractor shall provide in a timely and proper manner in accordance with the Contract include, but are not necessarily limited to, the following:

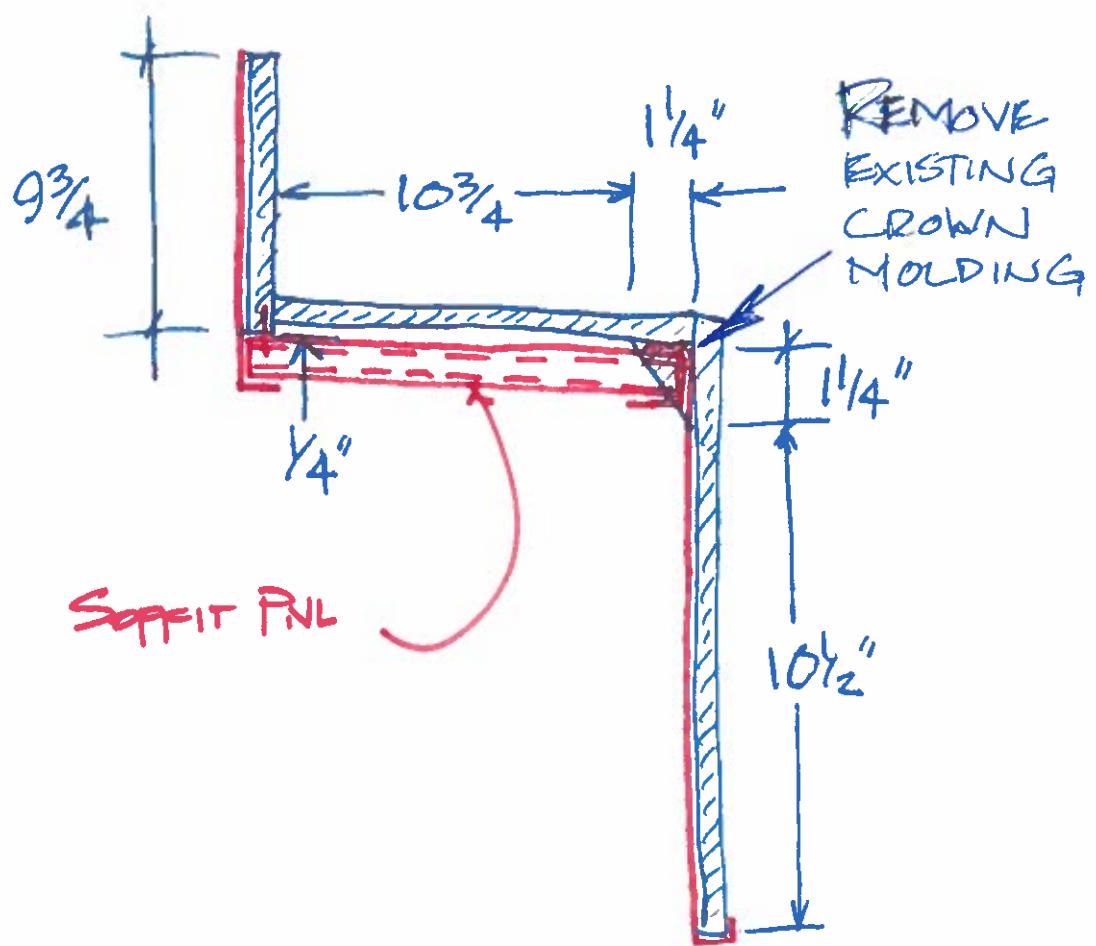
The final scope of services will be negotiated with the Selected Offeror.

BENT Mountain CENTER



1930 EAVE
EXISTING
08.17.2022

BENT MOUNTAIN CENTER

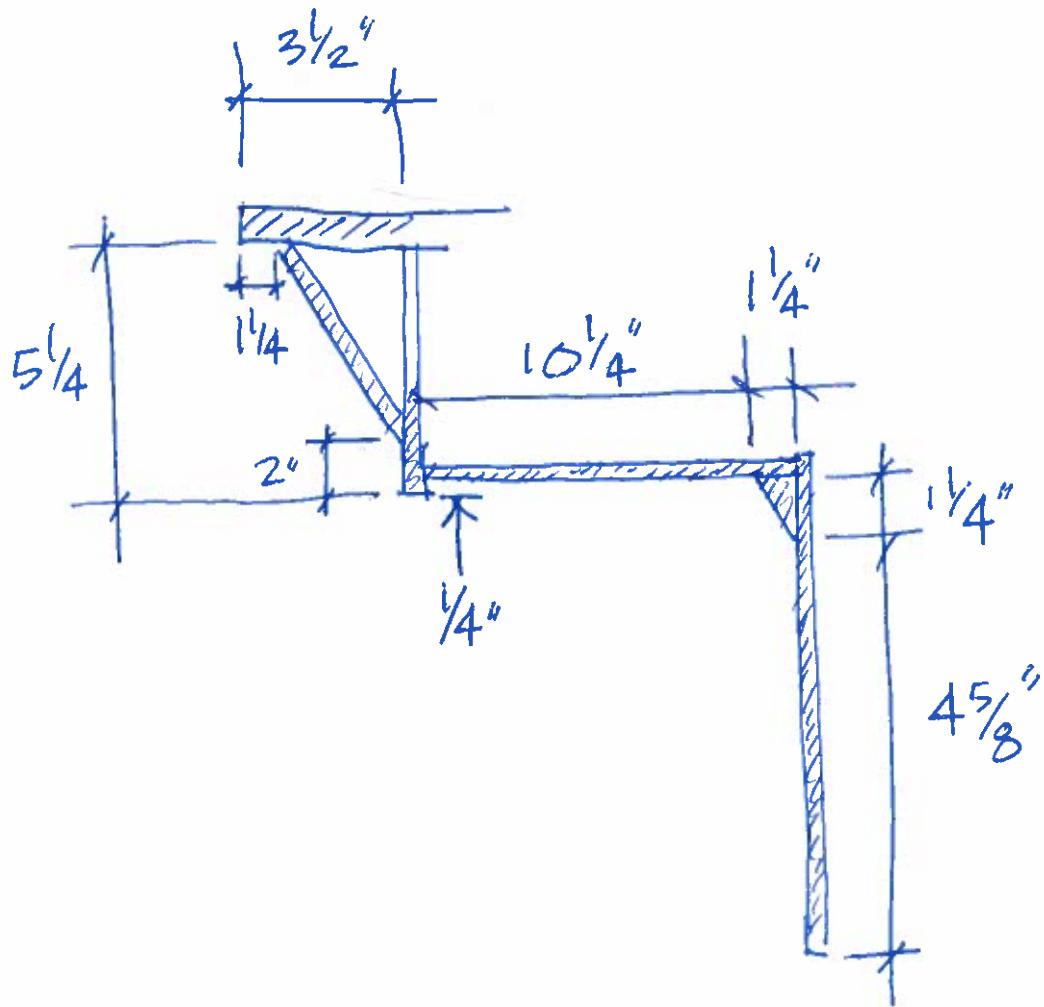


1930 EAVE
W/ CLADDING

08.17.2022

1A

BENT MOUNTAIN CENTER

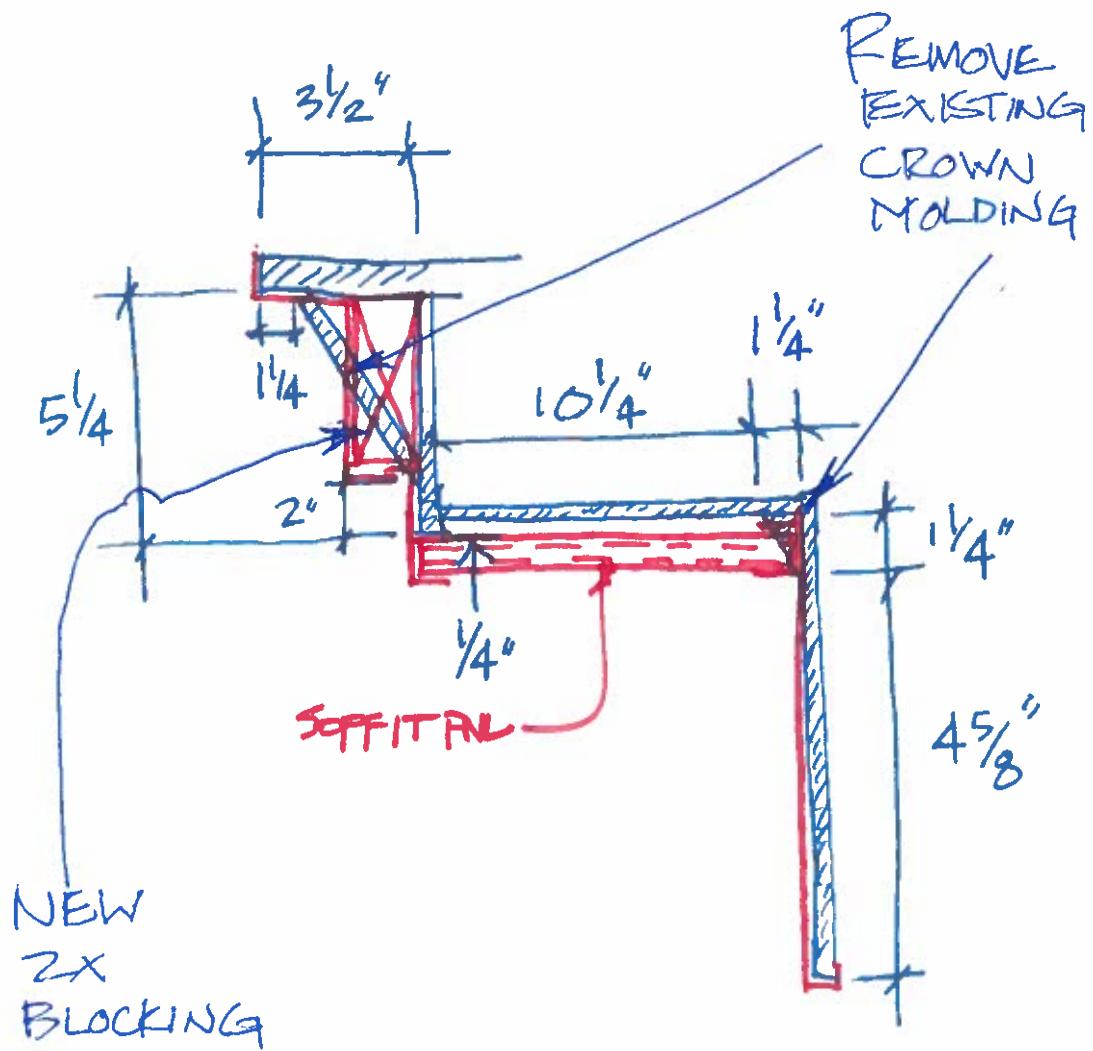


1930 RAKE

EXISTING

08-17-2022

BENT MOUNTAIN CENTER

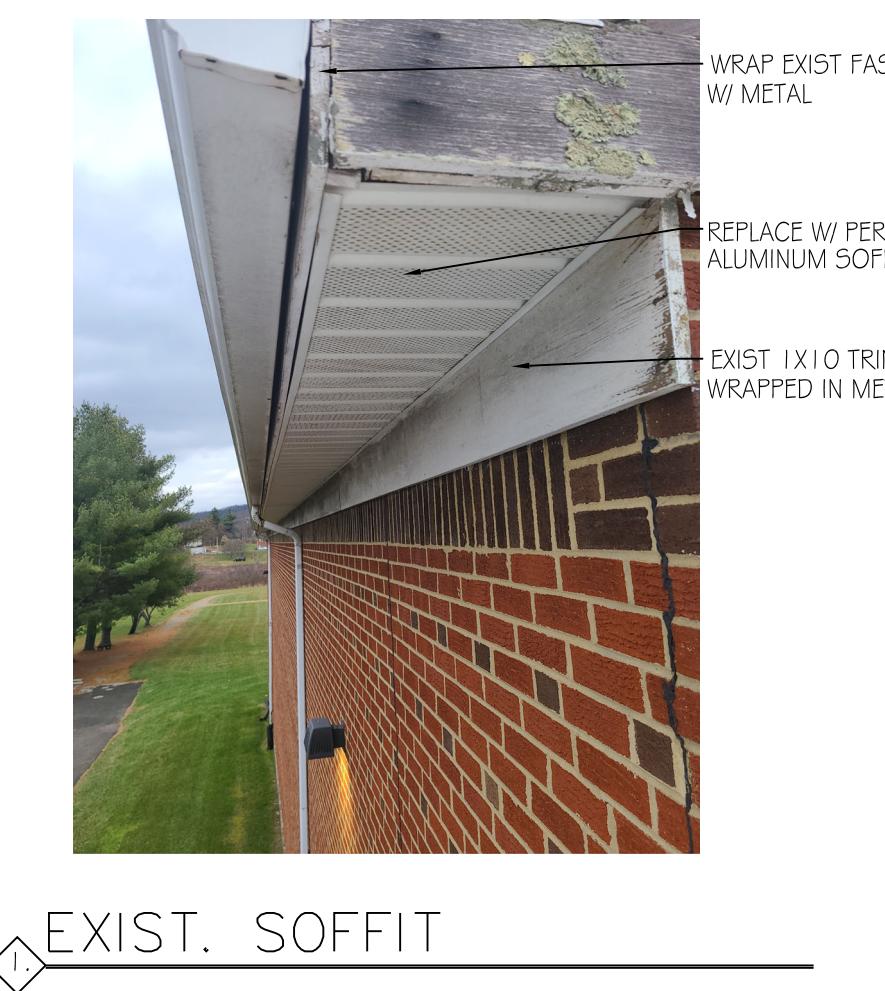
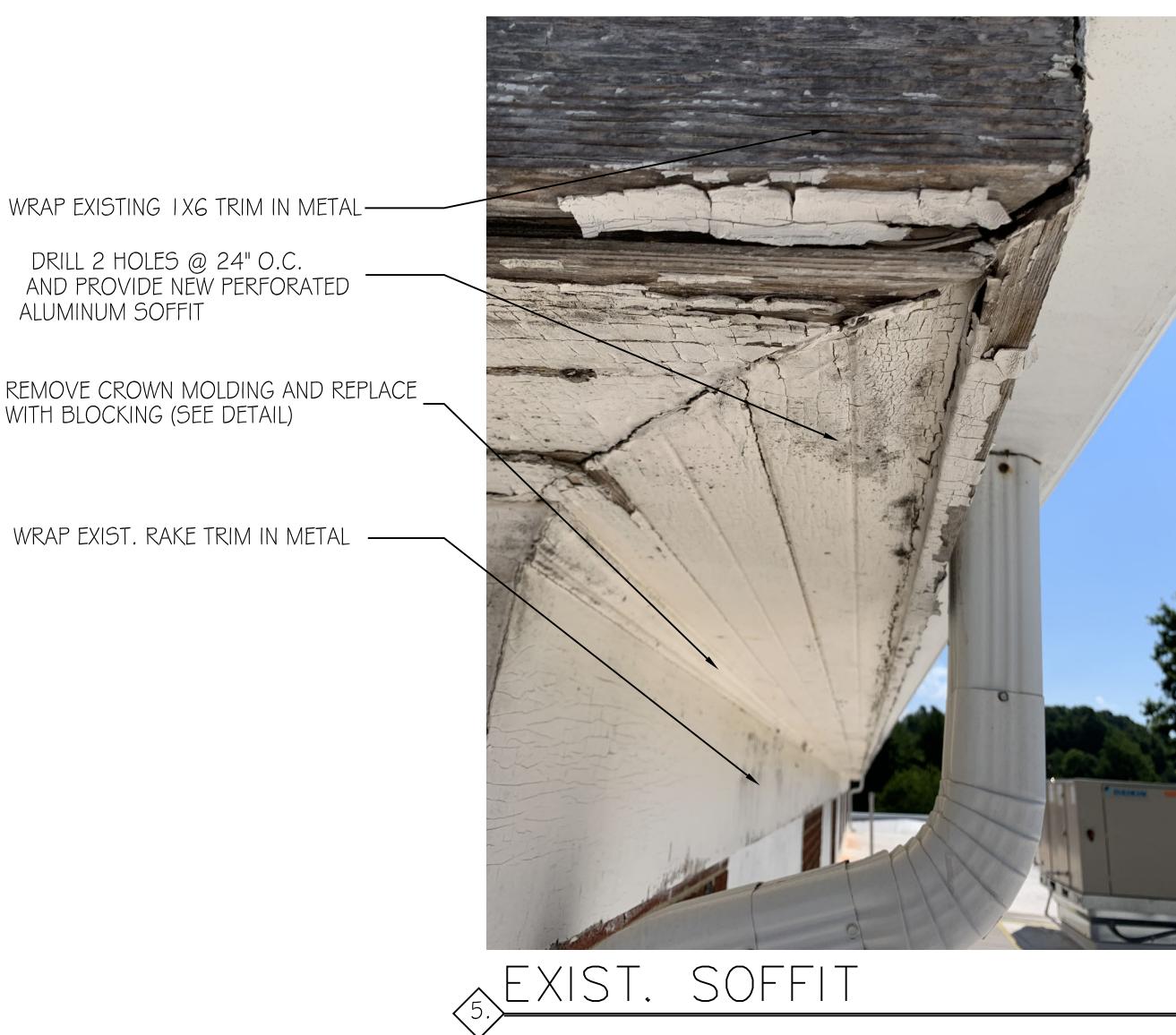
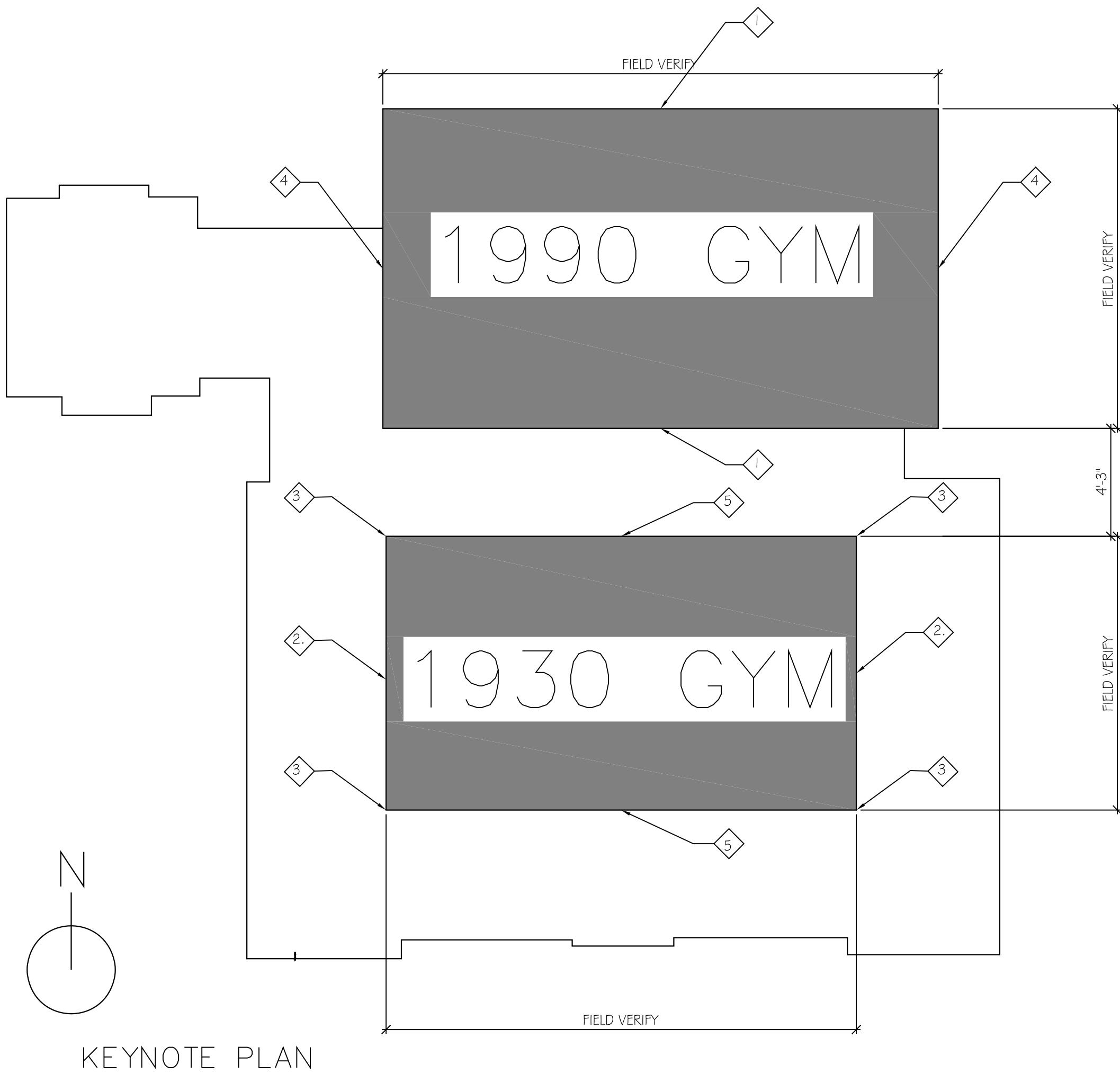


1930 RAKE

W/ CLADDING

08.17.2022

ZA

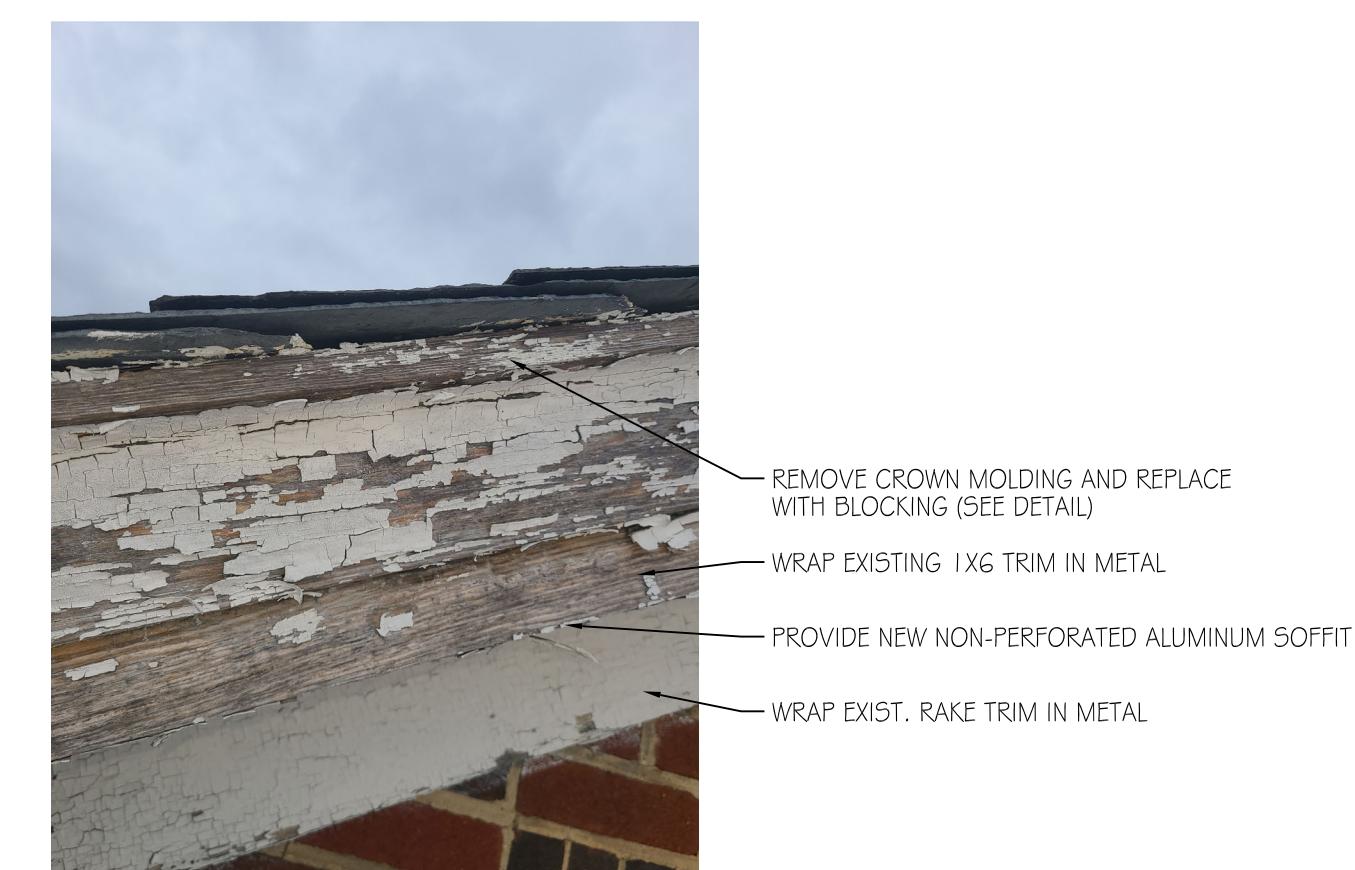


GENERAL NOTES: 1990 GYM ROOF

1. REPLACE DETERIORATED EXISTING WOOD TRIM AS NECESSARY. PROVIDE \$/ BOARD FOOT PRICE FOR MATERIAL REPLACEMENT
2. REMOVE EXISTING GUTTERS & DOWNSPOUTS AND INSTALL NEW.
3. REMOVE & REPLACE EXISTING GYM SOFFIT WITH NEW PERFORATED ALUMINUM SOFFIT.
4. PROVIDE METAL CLADDING OVER EXISTING WOOD TRIM AT EAVES AND RAKES

GENERAL NOTES: 1930 GYM ROOF

1. REPLACE DETERIORATED EXISTING WOOD TRIM AS NECESSARY. PROVIDE \$/ BOARD FOOT PRICE FOR MATERIAL REPLACEMENT
2. REMOVE EXISTING GUTTERS & DOWNSPOUTS AND INSTALL NEW.
3. SOFFIT: DRILL 2" HOLES @ 24" O.C., PROVIDE NEW PERFORATED ALUMINUM SOFFIT
4. REMOVE EXISTING CROWN MOLDING TO SIMPLIFY CLADDING PROFILE
5. PROVIDE METAL CLADDING OVER EXISTING WOOD TRIM AT EAVES AND RAKES
6. REMOVE EXISTING EAVE LINE DRIP EDGE AT SLATE ROOF. REPLACE WITH NEW DRIP EDGE.
7. PROVIDE RAKE LINE DRIP EDGE AT SLATE ROOF.
8. THE EXISTING PAINT @ THE 1930 GYM CONTAINS LEAD AND NEEDS TO BE HANDLED AND DISPOSED OF AS REQUIRED BY ALL APPLICABLE REGULATIONS.



BENT MOUNTAIN CENTER- ROOF TRIM
REPLACEMENT
10140 Tinsley Ln,
Bent Mountain, VA 24059
Roanoke County

REVISIONS
1-

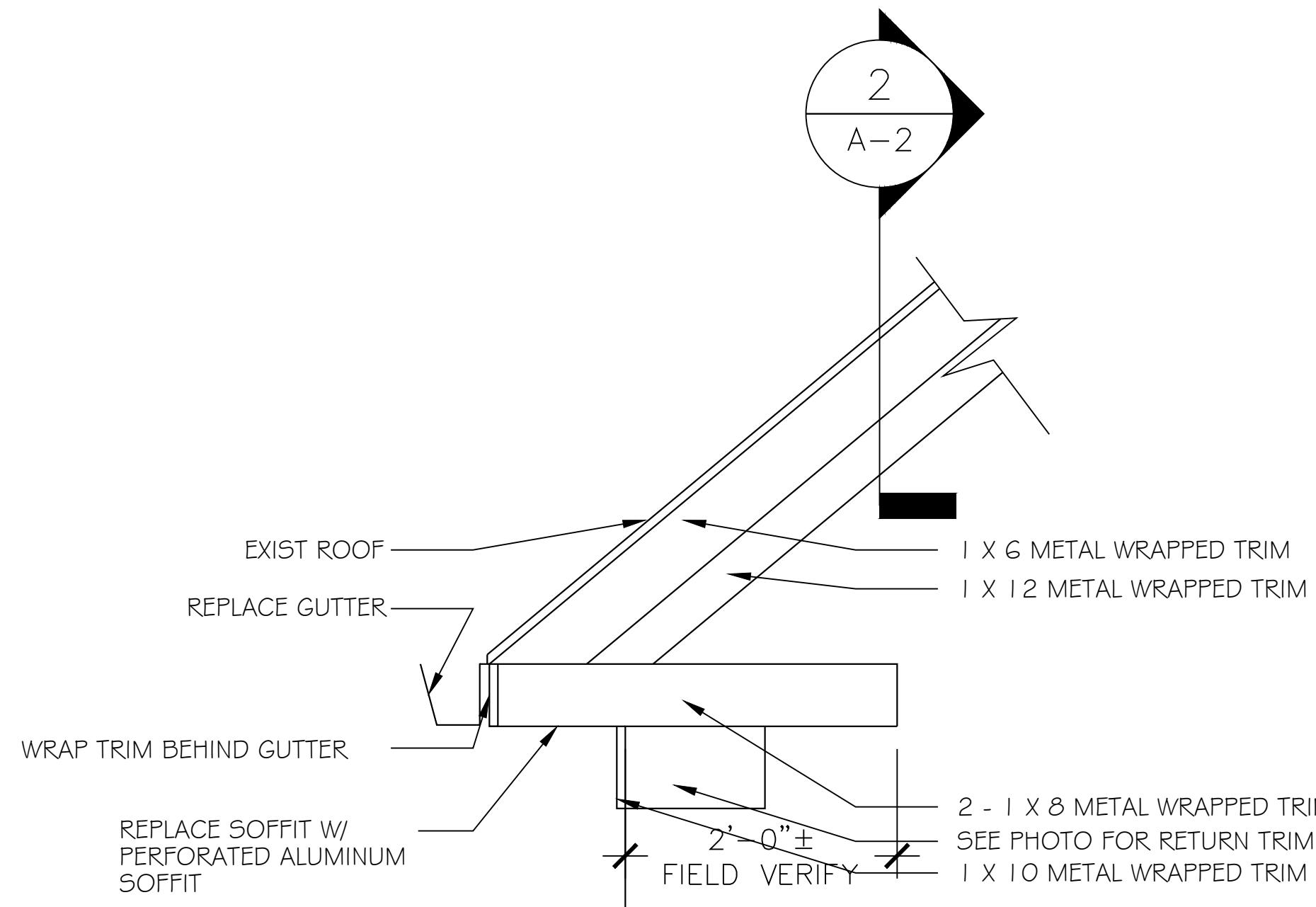
KEY PLAN &
EXISTING CONDITIONS

DRAWN BY
DS
ISSUE
12.07.21
PROJECT NO.
33057

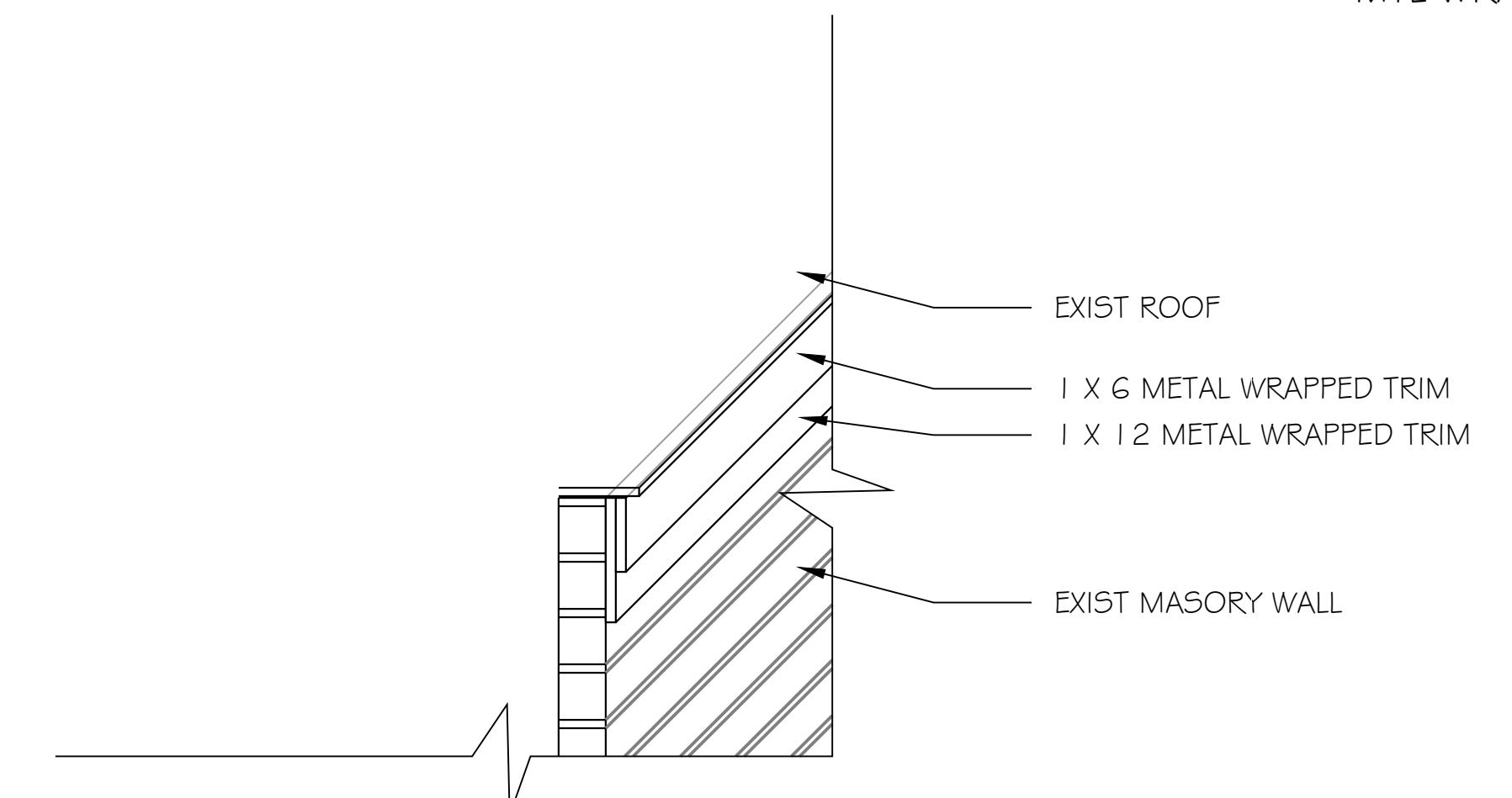
A-1

BENT MOUNTAIN CENTER-
ROOF TRIM PLACEMENT
10140 TINSLEY LN,
BENT MOUNTAIN, VA 24059
Roanoke County

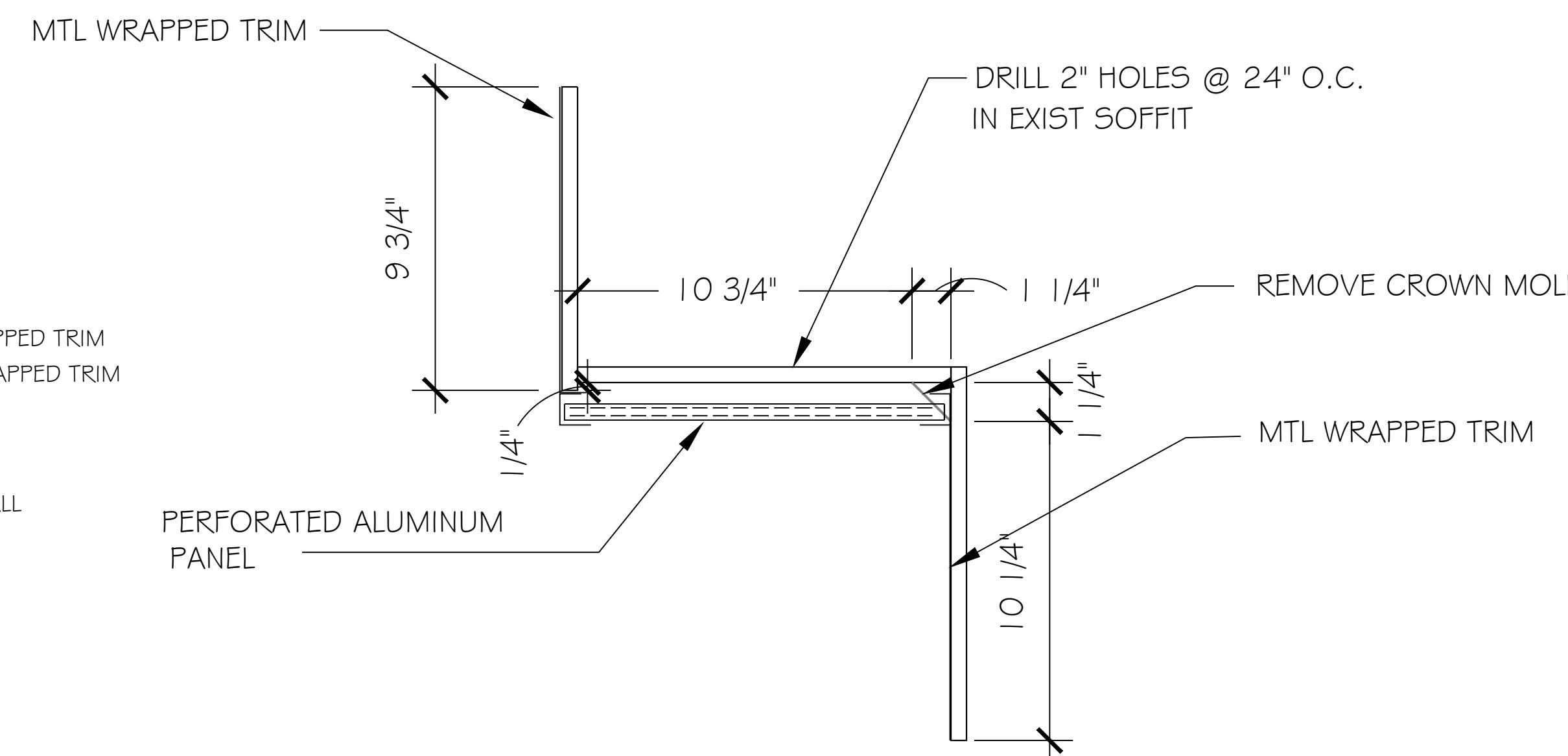
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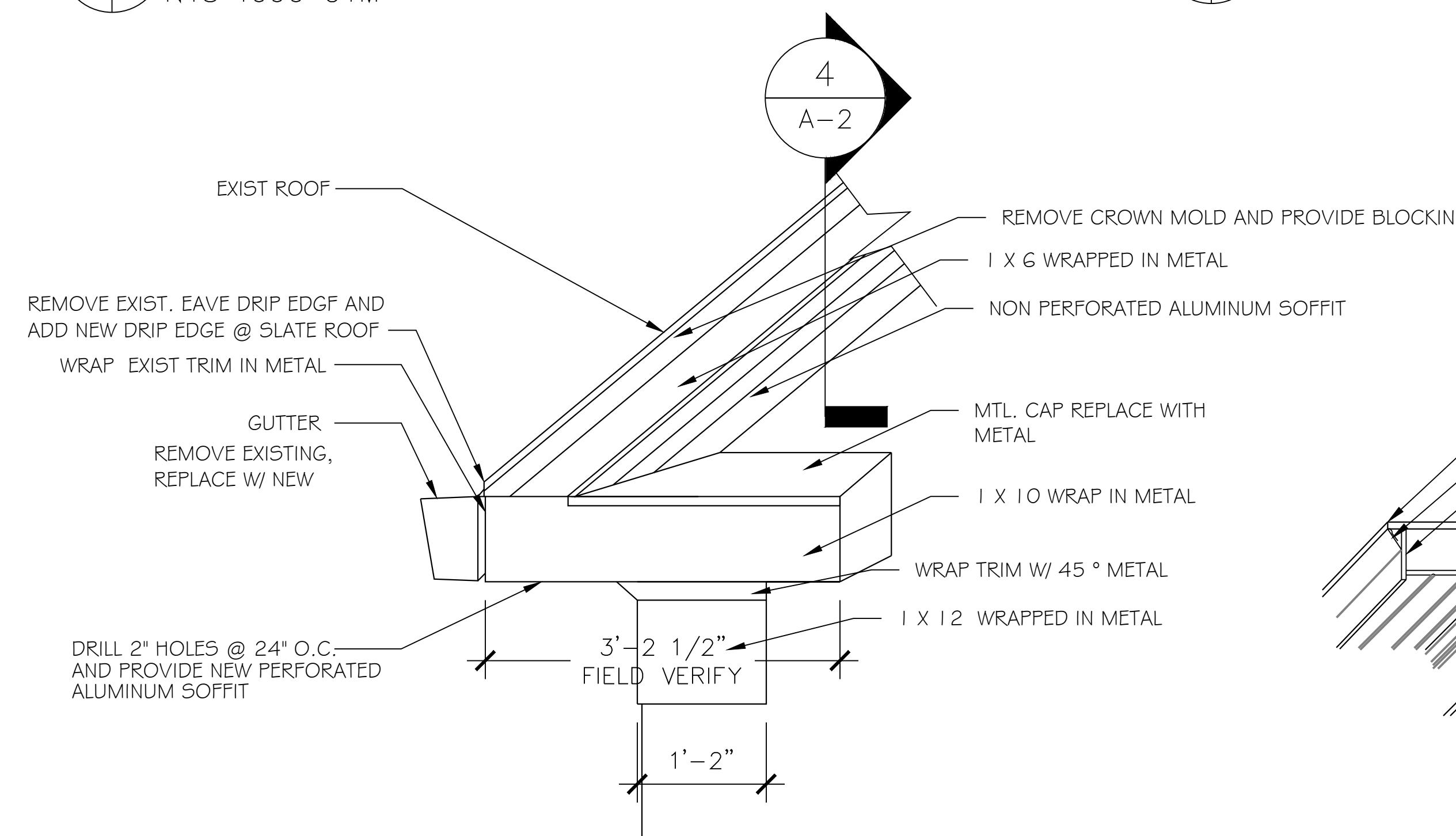
1 TYPICAL EAVE DETAIL
A2 A2
NTS 1990 GYM



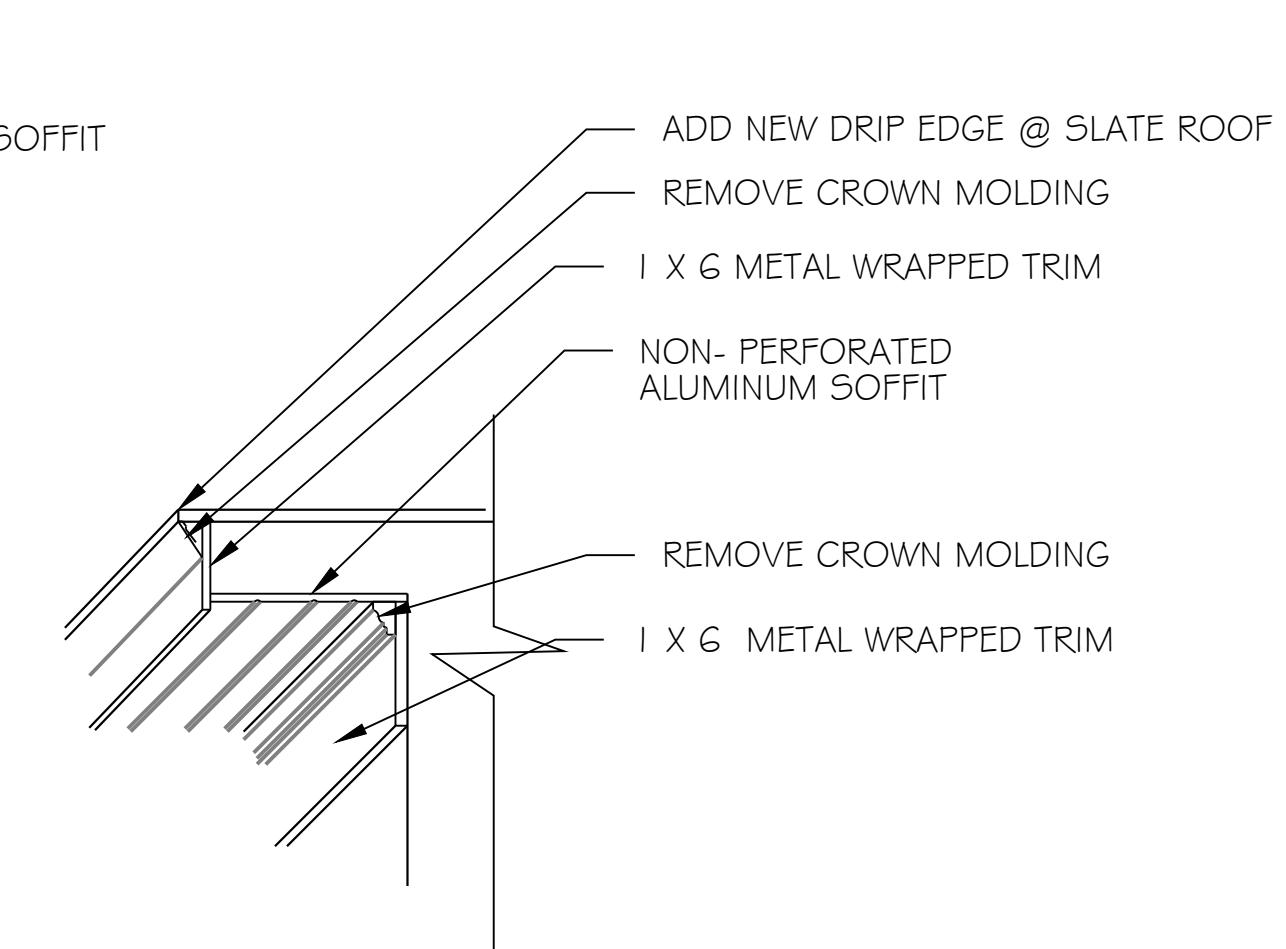
2 TYPICAL RAKE DETAIL
A2 A2
NTS 1990 GYM



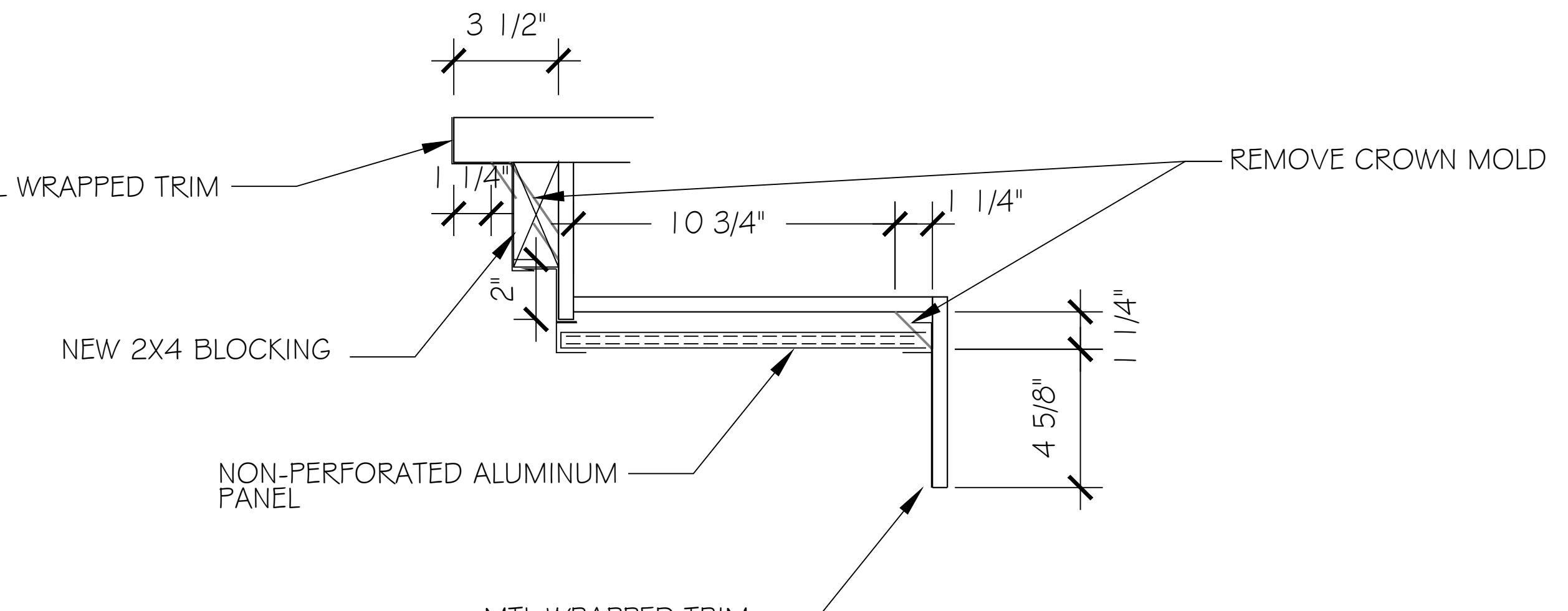
5 1930 EAVE CONSTRUCTION
A2 A2
3"=1'-0" 1990 GYM



3 TYPICAL EAVE DETAIL
A2 A2
NTS 1930 GYM



4 TYPICAL RAKE DETAIL
A2 A2
NTS 1930 GYM



6 1930 RAKE CONSTRUCTION
A2 A2
3"=1'0" 1930 GYM

REFER TO 5/A2

REFER TO 6/A2

REVISIONS
1-

SECTIONS

DRAWN BY
DS
ISSUE
08.10.22
PROJECT NO.
2346



LIMITED ASBESTOS SURVEY AND LEAD-BASED PAINT INSPECTION REPORT

Bent Mountain Community Center

10148 Tinsley Lane
Roanoke, Virginia 24059



Prepared For:

Roanoke County General Services
1216 Kessler Mill Road
Salem, Virginia 24153
Phone: 540.777.6345
Attention: Ron Riquelmy
Email: rriquelmy@roanokecountyva.gov

Issue Date: August 26, 2019

F&R Project Number: 62X-0328

Conducted/Reviewed By:

Conducted/Prepared By:

Jesse D. Phillips
Senior Environmental Professional

Adam J. T. Day
Environmental Scientist



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APPENDICES

Appendix A

F&R Personnel and Laboratory Accreditations

Appendix B

Facility Sketch:
Sample Locations

Appendix C

Historical Documentation

Appendix D

Laboratory Certificates of Analysis
Bulk Sample Chain of Custody Forms

Appendix E

Photographic Documentation

Appendix F

Explanation of XRF Data Table
XRF Data Table
XRF Performance Characteristic Sheet



1.0 INTRODUCTION

Froehling & Robertson, Inc. (F&R) conducted a Limited Asbestos Survey and Lead-Based Paint (LBP) Inspection on August 8 and 12, 2019, at the Bent Mountain Community Center located at 10148 Tinsley Lane in Roanoke, Virginia. It is F&R's understanding that the structure is the subject of scheduled renovations which may impact building materials. The following sections document the survey procedures and results. Refer to Appendix A for Personnel Accreditation documentation of F&R personnel associated with this survey.

1.1. Purpose

The purpose of the Limited Asbestos Survey and LBP Inspection was to identify Asbestos-Containing Materials (ACMs) and LBP coatings that may require appropriate removal, handling, and disposal procedures prior to scheduled renovation activities at the subject property. This survey is to aid in the determination of health and safety requirements during the conduct of work which may impact identified materials.

1.2. Site Description

The former school structure is currently utilized as a community center and consists of an approximately 19,176 square foot building reportedly constructed in 1930 with an addition added in 1990. The 1930s portion is situated over a crawlspace and a basement. Interior finishes includes plaster and gypsum board ceilings and walls, acoustical ceiling tiles, carpet, vinyl floor tile, brick veneer and concrete masonry unit (CMU) walls, among others. Building exterior includes brick veneer walls and concrete. Refer to Appendix B for site sketches of the facility, including asbestos sample locations.

Note that F&R utilizes a combination of cardinal directions and Housing and Urban Development methodology for location identification modifiers: Side A is always the address side or the main entry side of the building. Then, proceeding in a clockwise direction the adjacent sides are labeled B, C and D; for example, the wall on the left side as one enters the building would be denoted as side B. Rooms with similar use patterns are numbered sequentially, generally with the first being the one that is encountered as one moves clockwise through the building from the main entry; unless room numbers are clearly identified on-site or on provided architectural/mechanical drawings which are expected to persist throughout the project. Note that F&R utilized Hallway and Room numbers as they were labeled on-site; such designations are expected to persist throughout the project. Refer to Appendix B for facility sketches created by F&R based upon site conditions observed at the time this survey was conducted.

It should be noted that material and color descriptions are subjective and that, due to the nature of the environment, identical materials and colors may have been labeled as different depending on the lighting, other colors in the area, and other factors.



1.3. Background

F&R was provided with a previous survey report prepared by Barrata & Associates, Inc titled *Three Year AHERA Reinspection* dated March 4, 2008. As the previous report title indicates, the survey assessed portions of the structure for the purpose of compliance with existing Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) requirements to perform a re-inspection every three years (triennial). An AHERA triennial is conducted in a limited capacity for asbestos and is instead focused on the condition of the ACM that has been verified from past surveys. As such, the provided previous survey was not sufficient to constitute a thorough building survey as required for renovation purposes with regard to applicable Federal and State regulations. Historic survey data has not been tabulated within this report; however, the aforementioned previous survey report is included for reference as Appendix C – Historical Documentation.

2.0 SCOPE OF SERVICES

As outlined in F&R proposal number 1962-00836-Revision I, the survey included the following services with respect to the proposed renovation activities:

- Identification and sampling, as necessary, of suspect ACMs.
- Testing, as necessary, of building components for the presence of lead-based paint.

3.0 LIMITED ASBESTOS-CONTAINING MATERIALS SURVEY

F&R's Virginia Licensed Asbestos Building Inspector, Jesse D. Phillips (Virginia Asbestos License #3303 003557), conducted the Asbestos Survey of the current site structure(s) located at 10148 Tinsley Lane on August 8, 2019. The noted Inspector was assisted by F&R industrial hygienist Adam Day.

Federal Regulations (40 CFR Part 61, Subpart M – National Emission Standard for Asbestos (NESHAP)), as well as Virginia Department of Labor and Industry regulations require a thorough asbestos inspection of the structure to be conducted prior to the commencement of renovation and/or demolition activities. An ACM is defined by the Occupational Safety & Health Administration (OSHA) and the Environmental Protection Agency (EPA) as material containing greater than one percent (1%) asbestos.

3.1. Asbestos-Containing Materials (ACM) Methodology

This survey was conducted in general accordance with the Federal NESHAP and applicable State regulations for the presence of ACMs. The survey was characterized by a visual inspection and sampling of suspect building components at the subject property to be impacted by the proposed renovation activities.



Guidelines utilized in the asbestos survey were established by the EPA, ASTM International (ASTM), and The Environmental Information Association, Inc. (EIA). Utilized guidelines included: the Asbestos Hazard Emergency Response Act (40 CFR Part 763, Subpart E – Asbestos-Containing Materials in Schools (cited as AHERA)), ASTM Standard E2356-14 *Standard Practice for Comprehensive Building Asbestos Surveys*, and the EIA publication *Managing Asbestos in Buildings: A Guide for Owners and Managers – A Revision to the United States Environmental Protection Agency's 1985 document Guidance for Controlling Asbestos-Containing Materials in Buildings (EPA 560/5-85-024) Known as the Purple Book*.

F&R's aforementioned industrial hygienist(s) collected and submitted suspect asbestos-containing bulk samples to the laboratory, of which, a total of seventy six (76) (1930s portion) and forty nine (49) (1990s portion) suspect asbestos-containing bulk samples with discernable layers were analyzed by the testing laboratory. Due to multiple layers, a total of one hundred twenty one (121) (1930s portion) and seventy three (73) (1990s portion) samples were analyzed.

Samples of suspect ACMs were organized as per the AHERA concept of Homogeneous Area (HA), collected, and transported to the Environmental Hazards Services, L.L.C. (EHS) testing laboratory. EHS is a National Institute for Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory (NVLAP Lab Code: 101882-0) and Virginia licensed asbestos laboratory, located in Richmond, Virginia, for analysis by Polarized Light Microscopy (PLM) following EPA Method 600/R-93/116. Refer to Appendix A for Laboratory Certificates of Accreditations. Refer to Appendix D for Laboratory Certificates of Analysis and Bulk Sample Chain of Custody Forms for further description of sampled materials/analytical results.

3.2. Asbestos-Containing Materials Findings

The following material types were identified, sampled, and accordingly homogenized based upon similar construction discovered during bulk sampling:

- Gypsum Board
- Acoustical Ceiling Panel
- Vinyl Cove Base
- Brick/Mortar and Grout
- Sound Absorption Board ("Tectum")
- Wood Tile Flooring
- Thermal System Insulation (TSI)/Jacketing
- Joint Compound
- 12 x 12 Vinyl Floor Tile
- Drywall/joint compound
- Various Caulking and Mastics
- HVAC Sealant
- CMU

The following table presents a summary of survey results from sampling events performed on August 8 and 12, 2019. Refer to Appendix B for illustration of the locations of collected bulk samples. Positive asbestos samples (samples containing detectable concentrations of asbestos) are in **BOLD** type.



3.2.1. 1930s Building

SUSPECT ASBESTOS-CONTAINING MATERIALS SAMPLE INFORMATION 1930 PORTION OF STRUCTURE

HA #	Sample #	Situation ¹	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)	
1	1930-1A	1	South West Exterior Corner	Red Brick	Red Cementitious; Homogeneous	NAD	
	1930-1A			Mortar	Tan Granular; Homogeneous	NAD	
	1930-1B	1	South East Exterior Corner	Red Brick	Red Cementitious; Homogeneous	NAD	
	1930-1B			Mortar	Tan Granular; Homogeneous	NAD	
2	1930-2A	1	Foundation – East Wall	Concrete	Gray/Beige Cementitious; Homogeneous	NAD	
	1930-2B		South Face – East Of Main Entry	Concrete	Gray/Beige Cementitious; Homogeneous	NAD	
3	1930-3A ⁴	1	White Pliable – South Side Double Doors Exterior	White Door Caulking	White Paint-Like; White Pliable; Inhomogeneous	NAD	
	1930-3B ⁴		South Door – West End – Former Exterior Side	Caulk I	Blue Paint-Like; Beige Soft Pliable-Like; Inhomogeneous	3% Chrysotile	
				Caulk II	Gray Soft Pliable-Like; Homogeneous	3% Chrysotile	
4	1930-4A	1	Classroom 2 – Exterior Window – West Side	Glazing	White Paint-Like; Tan Brittle; Inhomogeneous	2% Chrysotile	
	1930-4B		Classroom 3 – Exterior Window – South Side	Glazing	Gray/White Brittle; Homogeneous	NAD	
5	1930-5A ⁴	1	North Side – West Window Exterior	Caulk	White Pliable; Homogeneous	NAD	
	1930-5B ⁴		South Side – West Window	Caulk I	White Pliable; Homogeneous	Trace <1% Chrysotile ⁵	
	1930-5B ⁴		South Side – West Window	Caulk II	Gray Soft Pliable; Homogeneous	3% Chrysotile	



HA #	Sample #	Situation ¹	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)
6	1930-6A	1	2 Layer Plaster Ceiling – Workroom Floor (Damaged/Delaminated)	Skim Coat	Beige Granular; Homogeneous	NAD
	1930-6A			Base Coat	Gray Granular; Homogeneous	Trace <1% Chrysotile
	1930-6B		2 Layer Plaster Ceiling – Classroom 5 Floor (Damaged/Delaminated)	Skim Coat	Blue Paint-Like; White Brittle; Inhomogeneous	NAD
	1930-6B			Base Coat	Gray Granular; Homogeneous	Trace <1% Chrysotile
	1930-6C		2 Layer Plaster Ceiling – Principles Office	Skim Coat	Beige Granular; Homogeneous	NAD
	1930-6C			Base Coat	Gray Granular; Homogeneous	Trace <1% Chrysotile
	1930-6D		2 Layer Plaster Ceiling – Custodial Room 9	Skim Coat	White Granular; Homogeneous	NAD
	1930-6D			Base Coat	Gray Granular; Homogeneous	Trace <1% Chrysotile
	1930-6E		2 Layer Plaster – Classroom 1	Joint Compound	White Paint-Like; White Powdery; Inhomogeneous	NAD
	1930-6E			Skim Coat	White Granular; Homogeneous	NAD
7	1930-7A	1	Hallway At Chimney Outside Classroom 1	Joint Compound	White Paint-Like; White Powdery; Inhomogeneous	NAD
	1930-7A			Gypsum Board	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
	1930-7B		Hallway At General Office	Joint Compound	White Paint-Like; White Powdery; Inhomogeneous	NAD
	1930-7B		Hall at General Office	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
	1930-7C		Hallway At Classroom 5	Joint Compound	White Paint-Like; White Powdery; Inhomogeneous	NAD
	1930-7C		Hallway at Classroom 5	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD



HA #	Sample #	Situation ¹	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)
8	1930-8A	1	Office 8 – At Sink	White Sink Backing	Off-White Adhesive-Like; Homogeneous	NAD
9	1930-9A	1	General Office	2' x 4' Ceiling Panel, pinhole with random fissures	White Paint-Like; Gray Fibrous; Inhomogeneous	NAD
	1930-9B		Room 7	2' x 4' Ceiling Panel, pinhole with random fissures	White Paint-Like; Gray Fibrous; Inhomogeneous	NAD
10	1930-10A	1	Foyer – South East Corner	2' x 4' Ceiling Panel, pinhole with random fissures	White Paint-Like; Gray Fibrous; Inhomogeneous	NAD
	1930-10B		Room 4 Center	2' x 4' Ceiling Panel, pinhole with random fissures	White Paint-Like; Gray Fibrous; Inhomogeneous	NAD
11	1930-11A	1	Foyer – East Side	2' x 4' Ceiling Panel, pinholes large and small	White Paint-Like; Gray Fibrous; Inhomogeneous	NAD
	1930-11B		Foyer – North Center	2' x 4' Ceiling Panel, pinholes large and small	White Paint-Like; Gray Fibrous; Inhomogeneous	NAD
12	1930-12A	1	Workroom – Office Suite (damaged/removed from wall and placed on floor)	Purple Cove Base	Purple Rubbery; Homogeneous	NAD
	1930-12A			Mastic	Yellow/Black Adhesive; Inhomogeneous	NAD
	1930-12B		Hallway At Door To Classroom 4	Purple Cove Base	Purple Rubbery; Homogeneous	NAD
	1930-12B			Mastic	White Adhesive; Homogeneous	NAD
13	1930-13A	1	Hallway at Room 9 At Columns	Plaster-Skim Coat	Beige Paint-Like; White Brittle; Inhomogeneous	NAD
	1930-13A		Hallway at Room 9 At Columns	Plaster-Base Coat	Gray Granular; Homogeneous	NAD
	1930-13B		Hallway at Room 2	Plaster-Skim Coat	White Paint-Like; White Brittle; Inhomogeneous	NAD



HA #	Sample #	Situation ¹	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)
13	1930-13B	1	Hallway at Room 2	Plaster-Base Coat	Gray Granular; Homogeneous	NAD
	1930-13C		Door Between Hall And General Office	Plaster-Skim Coat	White Brittle; Homogeneous	NAD
	1930-13C			Plaster-Base Coat	Gray Granular; Homogeneous	NAD
	1930-13D		Classroom 4 – Demising Wall With Bell At Door	Plaster-Skim Coat	White Brittle; Gray	NAD
	1930-13D			Plaster-Base Coat	Gray Granular; Homogeneous	NAD
	1930-13E		Classroom 3 – Demising Wall With Bell At Door	Plaster-Skim Coat	White Brittle; Homogeneous	NAD
	1930-13E			Plaster-Base Coat	Gray Granular; Homogeneous	NAD
14	1930-14A	1	Room 8 At Door To Hall	Hollow Demising Wall	Brown Fibrous; Gray Chalky; Homogeneous	NAD
	1930-14B		Hallway At Workroom Exterior (Media Center)	Joint Compound	White Powdery; Homogeneous	NAD
	1930-14B			Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
	1930-14C		Classroom 4 Opposite Door On Perimeter Wall Interior	Hollow Demising Wall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
	1930-14D		Classroom 2 – Perimeter Wall Interior – West Side South End	Hollow Demising Wall	White Powdery; Homogeneous	NAD
	1930-14D			Hollow Demising Wall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD



HA #	Sample #	Situation ¹	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)
15	1930-15A	1	Hallway Outside Office Suite	Plaster Demising Wall Skim Coat	White Granular; Homogeneous	NAD
	1930-15A		Hallway Outside Office Suite	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
	1930-15B		Hallway Outside Classroom 3	Joint Compound	White Granular; Homogeneous	NAD
	1930-15B		Hallway Outside Classroom 3	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
	1930-15C		Classroom 3 Against Demising Wall With Classroom 4	Plaster Base Coat	White/Yellow/Green Paint-Like; Gray Cementitious; Inhomogeneous	Trace <1% Chrysotile ⁶
16	1930-16A	1	Room 8 – Southwest Corner Above Drop Ceiling	Joint Compound	White Powdery; Homogeneous	NAD
16	1930-16A	1		Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
	1930-16B		Media Room – East Wall At Convex Corner Of Computer Room Above Drop Ceiling	Joint Compound	White Powdery; Homogeneous	NAD
	1930-16B			Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
	1930-16C		Computer Room (6) – South Wall With Workroom Above Drop Ceiling	Joint Compound	White Powdery; Homogeneous	NAD
	1930-16C			Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD
17	1930-17A	1	Room 8 – Above Drop Ceiling	Tan Duct Joint Sealant	Off-White Pliable; Homogeneous	NAD
	1930-17B		Computer Room (6) - Above Ceiling Drop	Tan Duct Joint Sealant	Off-White Pliable; Homogeneous	NAD
18	1930-18A	1	Room 8 – Above Drop Ceiling	Red Duct Joint Sealant	Maroon Pliable to Brittle; Homogeneous	NAD
	1930-18B		Room 6 - Above Ceiling Drop	Red Duct Joint Sealant	Beige to Brown Pliable to Brittle; Homogeneous	NAD



HA #	Sample #	Situation ¹	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)
19	1930-19A	1	Wall Of Room 6 – South Side – Brown Wall	Bulletin Board Mastic	Brown Adhesive; Homogeneous	NAD
20	1930-20A	1	Computer Room (6) - Above Ceiling Drop	Black HVAC Damper	Black Vinyl-Like; Homogeneous	NAD
21	1930-21A	1	Computer Room (6) Ceiling	Ceiling Panel	Tan Fibrous; White Brittle; Inhomogeneous	NAD
	1930-21B		Computer Room (6) Ceiling	Ceiling Panel	Tan Fibrous; White Brittle; Inhomogeneous	NAD
22	1930-22A	1	Computer Room (6) – Perimeter Wall With Courtyard – Above Drop Ceiling	Insulation	Yellow Foam-Like; Silver Metallica; Translucent Adhesive; Inhomogeneous	NAD
23	1930-23A	1	Computer Room (6) – East Floor/Wall	Cove Base	Dark Blue Vinyl-Like; Homogeneous	NAD
	1930-23A			Mastic	Off-White Adhesive; Homogeneous	NAD
	1930-23A			Joint Compound ⁷	Off-White Brittle; Homogeneous	Trace <1% Chrysotile
23	1930-23B	1	Computer Room (6) – West Floor/Wall	Cove Base	Blue Vinyl-Like; Homogeneous	NAD
	1930-23B			Mastic	Pale Yellow Adhesive; Homogeneous	NAD
24	1930-24A	1	Media Center – South East Corner – Under Carpet	Carpet Mastic	Yellow Adhesive; Homogeneous	NAD
	1930-24A			Carpet Mastic	Blue-Green Adhesive; Homogeneous	NAD
	1930-24B		Media Center – North West Corner	Carpet Mastic	Yellow Adhesive; Homogeneous	NAD
	1930-24B			Carpet Mastic	Blue-Green Adhesive; Homogeneous	NAD



HA #	Sample #	Situation ₁	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)
25	1930-25A	1	Front Stairs In Foyer	Stair Tread – Maroon	Maroon Pliable; Homogeneous	NAD
	1930-25B			Stair Tread - Maroon	Maroon Pliable; Homogeneous	NAD
26	1930-26A	B	Basement/Boiler Room At Hollow Pipe Penetration Room A	Cardboard Pipe Housing	Tan Fibrous; White Brittle; Inhomogeneous	NAD
27	1930-27A	1	Foyer Stairs Area	Tan Tread Mastic	Yellow to Tan Pliable; Homogeneous	NAD
	1930-27B		Foyer Stairs Area	Tan Tread Mastic	Yellow to Tan Pliable; Homogeneous	NAD
28	1930-28A	1	Foyer Stairs Area	Red Vinyl Flooring	Red Granular; Homogeneous	NAD
	1930-28A			Lower Layer Mastic Beneath Flooring	Amber Adhesive; Homogeneous	NAD
	1930-28A			Upper Layer Mastic Beneath Flooring	Black Adhesive; Homogeneous	NAD
	1930-28B		Foyer Stairs Area	Red Vinyl Flooring	Red Granular; Homogeneous	NAD
	1930-28B			Mastic	Yellow Adhesive; Homogeneous	NAD
29	1930-29A	1	Foyer – Stairs Area	Flooring	White/Multi-Colored Granular; Homogeneous	NAD
	1930-29A			Mastic	Yellow to Amber Adhesive; Homogeneous	NAD
	1930-29B	1	Classroom 4 – North End By Closets	Flooring	White/Multi-Colored Granular; Homogeneous	NAD
	1930-29B			Mastic	Yellow to Amber Adhesive; Homogeneous	NAD



HA #	Sample #	Situation 1	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)
30	1930-30A	1	Center Of Room 4	Black Transition	Black Vinyl-Like; Homogeneous	NAD
	1930-30A			Mastic	Translucent to Pale Tan Adhesive; Homogeneous	NAD
	1930-30B		Door To Hall At Room 4	Black Transition	Black Vinyl-Like; Homogeneous	NAD
	1930-30B		Door To Hall At Room 4	Mastic	Translucent to Pale Tan Adhesive; Homogeneous	NAD
31*	1990 – 31A	1	Room 7 – Restroom With Shower, At Base Of Shower Face	White Caulk	Tan Pliable; Homogeneous	NAD
31*	1930-31A	1	Media Center	4" Cream Cove Base	Beige Vinyl-Like; Homogeneous	NAD
	1930-31A		Media Center	Mastic	Pale Yellow Adhesive; Homogeneous	NAD
	1930-31A		Media Center	Joint Compound	White Brittle; Homogeneous	NAD
*Second Homogenous Area 31 inadvertently duplicated in the field.						
32	1930-32A	B	Basement	½" TSI Covering/Jacket	White Pliable to Brittle; Pale Beige/Off-White Fibrous; Silver Metallic; Off-White Adhesive; Inhomogeneous	NAD
	1930-32A			½" TSI	Yellow Adhesive; Homogeneous	NAD
	1930-32B	1	Room 9	½" TSI Covering/Jacket	White Pliable to Brittle; Pale Beige/Off-White Fibrous; Silver Metallic; Off-White Adhesive; Inhomogeneous	NAD
	1930-32B		Room 9	½" TSI	Yellow Adhesive; Homogeneous	NAD



HA #	Sample #	Situation ¹	Sample Location(s)	Material Description	Laboratory Description	Result (Percent ACM)
33	1930-33A	B	Basement	2" TSI Covering/Jacket	White Pliable to Brittle; Pale Beige/Off-White Fibrous; Silver Metallic; Off-White Adhesive; Inhomogeneous	NAD
	1930-33A			2" TSI	Yellow Fibrous; Homogeneous	NAD
	1930-33B	1	Room 9	2" TSI Covering/Jacket	Pale Beige Brittle; Pale Beige/Off-White Fibrous; Silver Metallic; Off-White Adhesive; Inhomogeneous	NAD
	1930-33B			2" TSI	Yellow Fibrous; Homogeneous	NAD
34	1930-34A	B	Basement	Plaster Ceiling	Pale Gray Cementitious; White Brittle; Inhomogeneous	NAD
	1930-34B		Basement	Plaster Ceiling	Pale Gray Cementitious; White Brittle; Inhomogeneous	NAD
35	1930-35A	C	Crawl Space	Tar Paper	Black to Brown Fibrous; Homogeneous	NAD
36	1930-36A	C	Crawl Space	Insulation	Tan/Yellow Fibrous; Black Pliable; Inhomogeneous	NAD
37	1930-37A	C	Crawl Space	Wiring Jacket	Beige/Pale Silver/Tan Fibrous; Off-White/Black Vinyl-Like; Copper Tan Fibrous; White Brittle; Inhomogeneous	NAD

¹Situation: 1 –First; B – Basement; C – Crawl Space; E – Exterior

²NAD: No Asbestos Detected

³**Bold:** Asbestos Containing Material or Trace (<1%) Asbestos Present

⁴Caulking with two separate caulk layers

⁵Lab Note: Possible contamination from caulk II

⁶Lab Note: <1% Chrysotile present in base coat

⁷Lab Note: Drywall System Joint Compound-Type Substrate Material



3.2.2. 1990s Building

SUSPECT ASBESTOS-CONTAINING MATERIALS SAMPLE INFORMATION 1990 PORTION OF STRUCTURE

HA #	Sample #	Sample Location(s) ¹	Material Description	Laboratory Description	Result (Percent ACM)
1 (visibly similar to HA 6/7, 21, & 25)	1990 -1A	Library – Electrical/ IT/ Storage Closet At Ceiling Access	Gypsum wallboard, Joint compound	Gray Powder; Brown Fibrous; Inhomogeneous	NAD
	1990 – 1A	Library – Electrical/IT/Storage Closet At Ceiling Access	Gypsum Wallboard, Joint Compound	White Granular; Homogeneous	NAD
	1990 – 1B	Storage HVAC Room – West Wall		Gray Powder; Brown Fibrous; Inhomogeneous	NAD
	1990 – 1C	Library – Electrical/IT/Storage Closet – North Wall At Door	Joint Compound	White Granular; Homogeneous	NAD
2	1990 – 2A	Library – Electrical/IT/Storage Closet Access In Ceiling (Partial Piece)	2' x 4' Ceiling Panel, Partial piece with pit and fissures	Brown Fibrous; White Paint; Inhomogeneous	NAD
	1990 – 2B	Eastern Breezeway	2' x 4' Ceiling Panel, Partial Piece with pit and fissures	Brown Fibrous; White Paint; Inhomogeneous	NAD
3	1990 – 3A	Library – Storage HVAC Room Floor	12 x 12 Floor Tile, Sea foam with cream, white, brown smears	Gray Vinyl; Homogeneous	NAD
	1990 – 3A	Library – Storage HVAC Room Floor	Black Mastic	Black Tar; Homogeneous	NAD
	1990 – 3B	Library – Storage HVAC Room Floor	12 x 12 Floor Tile, Sea foam with cream, white, brown smears	Gray Vinyl; Homogeneous	NAD
	1990 – 3B	Library – Storage HVAC Room Floor	Yellow Mastic	Yellow Adhesive; Homogeneous	NAD
4	1990 – 4A	Library – Under Fountain	4" Cream cove base	Tan Vinyl; Homogeneous	NAD
	1990 – 4A		Black Mastic	Tan Adhesive; Homogeneous	NAD
5	1990 – 5A	Library – Under Multicolored Carpet Square, By Fountain	Yellow Mastic	Yellow Adhesive; Homogeneous	NAD
	1990 – 5B	Library – Under Multicolored Carpet Square, At Circulation Desk		Yellow Adhesive; Homogeneous	NAD



HA #	Sample #	Sample Location(s) ¹	Material Description	Laboratory Description	Result (Percent ACM)
6 (visibly similar to HA 1, 21, 25)	1990 – 6A	Library; Children's Addition – East End Wall At Outlet	Joint Compound	White Granular; Homogeneous	NAD
	1990 – 6B	Library; Children's Addition – West Side Wall At North Outlet		White Granular; Homogeneous	NAD
7	1990 – 7A	Library; Children's Addition – West Side Wall At Outlet	Drywall	Gray Powder; Brown Fibrous; Gray Paint; Inhomogeneous	NAD
8	1990 – 8A	Library; Children's Additions – Wall/Brick Interior Face, South East Corner	White Caulk	White Pliable; Homogeneous	NAD
8	1990 – 8B	Library; Children's Addition – Wall/Brick Interior Face, South West Corner		White Pliable; Homogeneous	NAD
9	1990 – 9A	North East Exterior Wall, At Corner	Brick	Red Cementitious; Homogeneous	NAD
	1990 – 9A		Mortar	Brown Granular; Homogeneous	NAD
	1990 – 9B	South East Exterior Wall, At Corner	Brick	Red Cementitious; Homogeneous	NAD
	1990 – 9B		Mortar	Brown Granular; Homogeneous	NAD
10	1990 – 10A	North East Exterior Wall, At Corner	Block	Gray Cementitious; Homogeneous	NAD
	1990 – 10A		Mortar	Brown Granular; Homogeneous	NAD
	1990 – 10B	South East Exterior Wall, At Corner	Block	Gray Cementitious; Homogeneous	NAD
	1990 – 10B		Mortar	Brown Granular; Homogeneous	NAD
11	1990 – 11A	East Wall Exterior, At Brick Construction Joint	Black Caulk	Black Pliable; Homogeneous	NAD
	1990 – 11B	West Wall Of Interior Cafetorium, At Brick Construction Joint		Black Pliable; Homogeneous	NAD
12	1990 – 12A	Cafetorium Stage South Storage Closet, At HVAC Unit	Red HVAC Sealant	Brown Pliable; Homogeneous	NAD
13	1990 – 13A	Stairs By Stage South Storage Closet	Green Stair Tread	Green Vinyl; Homogeneous	NAD



HA #	Sample #	Sample Location(s) ¹	Material Description	Laboratory Description	Result (Percent ACM)
	1990 – 13A	Stage Stairs, By South Corner Of Stage	Mastic	Tan Adhesive; Homogeneous	NAD
	1990 – 13B		Green Stair Tread	Green Vinyl; Homogeneous	NAD
	1990 – 13B		Mastic	Tan/Black Adhesive; Inhomogeneous	NAD
14	1990 – 14A	Western Foyer/Breezeway, Facing Kitchen Entrance Door, Above Drop Ceiling Tile	TSI	Yellow Fibrous; Homogeneous	NAD
	1990 – 14A		TSI Covering/Jacket	White Pliable; Silver Foil; Inhomogeneous	NAD
15	1990 – 15A	Ducts Above Stage Access From Ladder	Tan Duct Sealant	Tan Pliable; Homogeneous	NAD
16	1990 – 16A	Cafetorium – North Side At Exit Door	Brown 4" Cove Base	Tan Vinyl; Homogeneous	NAD
	1990 – 16A		Mastic	Brown/Tan Adhesive; Homogeneous	NAD
	1990 – 16B	Cafetorium – East Side At HVAC Double Doors	Brown 4" Cove Base	Tan Vinyl; Homogenous	NAD
	1990 – 16B		Mastic	Tan Adhesive; Homogeneous	NAD
17	1990 – 17A	Kitchen – East Wall Cover Base Under Sink	Black Caulk Sealant	Black Pliable; Homogeneous	NAD
	1990 – 17B	Kitchen – North Wall At Tile Cover Base		Black Pliable; Homogeneous	NAD
18	1990 – 18A	Kitchen – North Wall At Water Heater	TSI	Yellow Fibrous; Homogeneous	NAD
	1990 – 18A		TSI Covering/Jacket	Tan Fibrous; Silver Foil; Inhomogeneous	NAD
	1990 – 18B		TSI	Yellow Fibrous; Homogeneous	NAD
	1990 – 18B		TSI Covering/Jacket	Tan Fibrous; Silver Foil; Inhomogeneous	NAD
19	1990 – 19A	Kitchen – Mop Closet At Base Of Mop Sink	Foam	Gray Foam; Homogeneous	NAD
	1990 – 19A		Caulk	Tan Pliable; Homogeneous	NAD
	1990 – 19B		Foam	Gray Foam; Homogeneous	NAD
	1990 – 19B		Caulk	Tan Pliable; Homogeneous	NAD



HA #	Sample #	Sample Location(s) ¹	Material Description	Laboratory Description	Result (Percent ACM)
20	1990 – 20A	Kitchen – North Wall At Base Of Exit Door, East Side Of Door	CMU Block	Gray Cementitious; Tan Paint; Inhomogeneous	NAD
	1990 – 20B	Kitchen – North Wall At Corner Of Water Heater Partition Wall		Gray Cementitious; Tan Paint; Inhomogeneous	NAD
21 (visibly similar to HA 1, 6/7, and 25)	1990 – 21A	Kitchen – Bathroom Ceiling	Gypsum Wall Board	Gray Powder; Brown Fibrous; Inhomogeneous	NAD
22	1990 – 22A	Cafetorium – North Wall At East Most Board	Sound Absorption Board	Tan Granular; Brown Fibrous; Inhomogeneous	NAD
	1990 -22B	Cafetorium – West Wall At Middle Most Board		Tan Granular; Brown Fibrous; Inhomogeneous	NAD
23	1990 – 23A	Men's Restroom – East Wall At Tile Cove Base Behind Door	Blue Ceramic Tile	Blue Cementitious; Homogeneous	NAD
	1990 – 23A		Grout	Gray Granular; Homogeneous	NAD
24	1990 – 24A	Kitchen – Cove Base At North Door Exit	Brown Ceramic Tile	Brown Cementitious; Homogeneous	NAD
	1990 – 24A		Grout	Brown Granular; Homogeneous	NAD
	1990 – 24A		Mastic	White Adhesive; Homogeneous	NAD
25 (visibly similar to HA 1, 6/7, & 21)	1990 – 25A	Kitchen – Ceiling At Removable Ceiling Tile, On 2x4 Joint	Joint Compound	White Pliable; Homogeneous	NAD
26 (visibly similar to HA 27)	1990 – 26A	West Side Double Doors Entrance, South Door	Black Window Glazing Compound	Black Pliable; Homogeneous	2% Chrysotile
27 (visibly similar to HA 26)	1990 – 27A	West Side South Facing Double Doors, Entrance To Library, East Door	Black Window Glazing Compound	Black Pliable; Homogeneous	NAD



HA #	Sample #	Sample Location(s) ¹	Material Description	Laboratory Description	Result (Percent ACM)
28	1990 – 28A ⁴	West Side Courtyard Double Doors, South Door	Clear Window Glazing Compound/Caulk	Black Pliable; Homogeneous	NAD
	1990 – 28A ⁴			Clear Pliable; Homogeneous	NAD
29	1990 – 29A	Cafetorium – North Side Exit Door, At Door Transition	Wood Tile, Flooring	Brown Fibrous; Homogeneous	NAD
	1990 – 29A		Wood Tile, Mastic	Tan Adhesive; Homogeneous	NAD
30	1990 – 30A	Custodial Closet, Room 9, North Wall	Yellow Penetration Compound	Tan Pliable; Homogeneous	NAD
Homogenous Area 31 was omitted due to field error.					
32	1990 – 32A	Cafetorium – HVAC Closet On HVAC Unit	Silver Caulk	Yellow/Tan Granular; Homogeneous	NAD
33	1990 – 33A	Cafetorium – HVAC Closet At HVAC Unit Connection To South Wall	Yellow Mortar	Silver Pliable; Homogeneous	NAD
34	1990 – 34A	East Side Double Doors Exterior At Breezeway	White Door Caulk	White Pliable; Homogeneous	NAD

¹All samples collected from first floor (single story building)

²NAD: No Asbestos Detected

³**Bold:** Asbestos Containing Material or Trace (<1%) Asbestos Present

⁴Caulking with two separate caulk layers

3.3. Asbestos-Containing Materials Inventory

F&R conducted a survey of the reasonably and safely accessible portions of the building. The Workroom in the Media Center was inaccessible during the site visit; suspect ACM in this space which were not represented during this survey should be presumed positive.

The following table presents identified materials containing greater than 1% asbestos, as well as presumed materials with regard to F&R survey activities and verified information obtained from Owner provided previous reports. Further, comprehensive delineation was not performed; therefore, the table below may not completely represent locations of identified ACMs. It is the responsibility of the client or contractor to verify material locations. Photographic documentation of ACMs for reference is provided as Appendix E.



ASBESTOS-CONTAINING MATERIALS INVENTORY 1930s PORTION

HA #	Material Description	Material Location(s)	Result (Percent ACM)
3	Caulk	South Door – East End – Former Exterior Side	3% Chrysotile
4	Glazing	Classroom 2 – Exterior Window West Side	2% Chrysotile

ASBESTOS-CONTAINING MATERIALS INVENTORY 1990s PORTION

HA #	Material Description	Material Location(s)	Result (Percent ACM)
26	Black Window Glazing Compound	West Side Double Doors Entrance, South Door	2% Chrysotile

F&R presumes that, where materials have been documented to be ACMs and where those materials are similar to other materials which have not been found to be positive, those similar materials will be considered to be ACMs (i.e. where one material was analyzed and found to be positive, it is prudent to consider other similar materials positive, despite potential analytical data to the contrary).

3.3.1. Trace Asbestos

A total of seven (7) building materials were detected in the 1930s portion for which analytical results indicated the presence of asbestos but in a quantity less than 1%, reported by the lab as trace. Representative samples are shown in the table below:

TRACE-ASBESTOS-BUILDING MATERIALS (TRACE <1%) INVENTORY

HA #	Material Description	Material Location(s)	Result (Percent Asbestos)
5	Caulk ¹	South Side Exterior – West Window	<1% Chrysotile
6	Base Coat	Workroom Ceiling - On Floor (Damaged)	<1% Chrysotile
6	Base Coat	Classroom 5 Ceiling - On Floor (Damaged)	<1% Chrysotile
6	Base Coat	Principles Office Ceiling	<1% Chrysotile
6	Base Coat	Classroom 1 Ceiling	<1% Chrysotile
15	Plaster Wall ²	Classroom 3 Against Demising Wall with Classroom 4 – In Closet	<1% Chrysotile
23	Joint Compound ³	Room 6 – East Floor/Wall	<1% Chrysotile

¹Lab Note: Possible contamination from caulk II

²Lab Note: <1% Chrysotile Present in the Base Coat

³Lab Note: Drywall System Joint Compound-Type Substrate Material



Trace levels of asbestos were identified in window caulking, the base coating of the plaster ceilings, one plaster finished wall (specifically in the base coat), and the joint compound in the gypsum wallboard system. Based on the laboratory analysis, it can be assumed that areas with similar homogeneous materials may also contain trace levels of asbestos. This includes rooms with similar plaster ceilings, plaster wall finishes, and window caulk.

Although this concentration of asbestos is below the regulatory threshold under EPA regulations, and additionally does not constitute ACM as per OSHA regulations, OSHA has regulations that apply to the removal and disturbance of trace levels of asbestos. F&R recommends that the owner either conduct follow-up sampling of the base coat using a more sensitive method (TEM analysis) to evaluate if there is asbestos present in this material or assume that the material is asbestos containing and manage it accordingly. F&R notes, however, that this is not a regulatory requirement and our recommendation is based on experience and good practice.

3.3.2. Presumed Asbestos-Containing Materials

During the conduct of this survey, sampling was limited to those materials which were within the areas designated by the client, which were safely accessible, and which were able to be sampled without damaging systems or structures. As such, some materials should be presumed to be positive, unless sampling is conducted and shown to be negative. Such presumed asbestos containing materials (PACMs) include, but are not limited to:

- Materials within the space above the drop ceilings;
- Materials within wall cavities or above hard ceilings;
- Fire door interiors,
- Gaskets and packing materials in plumbing, where present,
- Chimneys and flues or other cementitious pipes or panels,
- Internal Components within the HVAC units,
- Electrical Components,
- Etc.

Note that asbestos was used in over 3,000 known products and was used extensively in construction materials including in insulation and finish materials such as drywall-based systems, acoustical tiles, caulk and mastics, vinyl-based materials, and specialty products. Asbestos also continues to be used in new construction because, as stated by the EPA, "the manufacture, importation, processing, and distribution in commerce of [various] products [...] are not banned."

3.4. Asbestos-Containing Materials Recommendations

As detailed above, several materials were identified as asbestos-containing, utilized in window glazing and door caulking throughout the structure. Prior to impacting the identified or presumed ACMs via renovation and/or demolition, F&R recommends that the ACMs be appropriately



removed, handled, and disposed of by an appropriately licensed/accredited Abatement Contractor utilizing appropriately licensed/accredited personnel. Best practices dictate that an asbestos abatement specification document be prepared which details project-specific work plans and requirements. This abatement specification document should incorporate delineation of identified or presumed ACMs and should be furnished by the client or building owner to contractors for bidding purposes. Appropriately licensed or accredited personnel must prepare and/or review such specification documents. This survey report should not be used for bidding purposes.

A quantity of trace asbestos was reported by the testing laboratory for certain building materials and was determined to be present in window caulking, base coat in plaster finished ceilings, and plaster wall components including plaster base coat and joint compound. F&R recommends that the client consider proactive removal of the damaged trace ACMs in various areas in the structure including; General Office, Principle Office, Workroom, Classroom 5, and anywhere else it is present in the building. F&R recommends that rooms containing any damaged plaster ceiling materials be closed to pedestrian traffic and not be occupied until said materials are disposed of appropriately. Although EPA regulations do not require the disposal of trace (<1%) asbestos building materials to be treated as asbestos containing, OSHA regulations still apply to trace (<1%) building materials when engaging in renovation/demolition activities. Additionally, any further renovation/demolition activities which would damage or disturb the plaster wall systems or plaster ceilings should also be handled appropriately. F&R also recommends further sampling and delineation of all apparently homogeneous wall systems where asbestos was detected in any concentration.

With regard to the facility in terms of asbestos abatement activities, F&R recommends that a third party Asbestos Professional be retained to provide on-site surveillance and guidance of the Asbestos Abatement Contractor to confirm complete and proper removal/disposal of ACMs in accordance with applicable federal, state, and local regulations.

F&R further recommends that the third party Asbestos Professional be present for the duration of the abatement project and authorized to provide guidance to the Asbestos Abatement Contractor during the Project to confirm complete and proper removal/disposal of ACMs in accordance with applicable federal, state, and local regulations. This recommendation is made as a best practice to reduce potential exposure to workers and limit liability.

The Client should note that F&R has encountered instances in which materials were analyzed by Polarized Light Microscopy (PLM) (following EPA Method 600/R-93/116) for the presence of asbestos with a result of "None Detected", but when analyzed by Transmission Electron Microscopy (TEM) for Non-friable Organically Bound (NOB) bulk material, analytical results have indicated that asbestos is present in quantities greater than 1%. The client should be aware that F&R has samples analyzed by the PLM method for a number of reasons (including financial and time considerations) and that this method is considered acceptable in the State of Virginia;



however, some firms employ the more stringent TEM method which is required in some states. Therefore, it is possible that some materials identified as containing no asbestos within this report may, if subjected to a more stringent analytical method, reveal the presence of asbestos at concentrations of 1% or greater.

In addition, it should be noted that through NESHAP Applicability Determinations, asbestos bulk samples analyzed via PLM which indicate a result of asbestos content to be less than ten (10) percent, including trace amounts (<1%), the material in question shall either be assumed to be an ACM or further analyzed via PLM Point Count or TEM to verify asbestos content. Results obtained via PLM Point Count or TEM analysis shall supersede previous results obtained by standard PLM analysis. Samples with analytical results via PLM which indicate that no asbestos was detected are not required to be further analyzed via PLM Point Count or TEM. Note that the sampled materials where trace concentrations were detected should therefore be considered ACM (>1%) until more stringent analysis is performed.

Should additional suspect ACMs be discovered during renovation activities that have not been sampled and will be disturbed, F&R recommends the work be temporarily halted. Samples of suspect materials should be collected, analyzed, and handled accordingly prior to the resumption of renovation and/or demolition activities.

3.5. Applicable Regulations

3.5.1. EPA/NESHAP Regulations for Asbestos-Containing Materials

The U.S. Environmental Protection Agency promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) [40 CFR Part 61], which addresses the application, removal, and disposal of asbestos-containing materials (ACM). Under NESHAP the following categories are defined for asbestos-containing materials:

Friable - When dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Non-friable - When dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Category I Non-friable ACM - Packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than 1% asbestos.

Category II Non-friable ACM – Material, excluding Category I Non-friable ACM, which contains more than 1% asbestos.

Regulated Asbestos Containing Material (RACM) – One of the following:



1. Friable ACM
2. Category I Non-friable ACM that has become friable.
3. Category I Non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
4. Category II Non-friable ACM that has a high probability of becoming, or has become, friable by the forces expected to act on the material in the course of demolition or renovation operations.

Under NESHPAP, the following actions are required:

1. Prior to the commencement of demolition or renovation activities, the building owner must inspect the affected facility or part of the facility where the demolition or renovation activities will occur for the presence of asbestos.
2. Remove RACM from the facility before activities begin that would break up, dislodge, or similarly disturb the material or preclude access for subsequent removal.
3. ACM need not be removed if:
 - a) It is Category I non-friable ACM that is not in poor condition.
 - b) It is on a facility component that is encased in concrete or other similar material and is adequately wet whenever exposed.
 - c) It was not accessible for testing and was therefore not discovered until after demolition began and because of the demolition the material cannot be safely removed.
 - d) It is Category II non-friable ACM and the probability is low that the material will become crumbled, pulverized, or reduced to powder during demolition.

3.5.2. Virginia Asbestos Regulations

The Virginia Department of Labor and Industry (DOLI) regulates asbestos through enforcement of the Virginia Occupational Safety and Health (VOSH) regulations, enforcement of the Environmental Protection Agency's National Emission Standards for Hazardous Air Pollutants (NESHPAP), and enforcement of the Asbestos Notification regulations found in the Labor Laws of Virginia (§40.1-51.20). Agency locations and regulations can be found on the agency Web site <http://www.doli.virginia.gov>.

The Virginia Department of Professional and Occupational Regulation (DPOR) is responsible for company and individual licensure in Virginia. Licensure and regulatory information can be found on DPOR's Web site <http://www.dpqr.virginia.gov/>



The Virginia Department of Environmental Quality (DEQ) is responsible for the regulation of landfills in Virginia. Information on the disposal of asbestos in Virginia landfills can be obtained from the DEQ Web site <http://www.deq.state.va.us/>.

3.5.3. OSHA Asbestos Regulations

The Occupational Safety and Health Administration (OSHA) regulates employee exposure to asbestos under 29 CFR 1926.1101 and 29 CFR 1910.1001. Work associated with known or suspect ACMs must be conducted according to these regulations in addition to the noted EPA regulations. As discussed previously, OSHA has certain regulatory requirements for working with building materials where asbestos has been detected in a quantity of 1% or less.

4.0 LIMITED LEAD-BASED PAINT SURVEY

F&R's Virginia Licensed Lead-Based Paint Risk Assessor, Jesse D. Phillips (VA LBP License #3356 001002), performed the testing of surface coatings for lead on August 12, 2019. Refer to Appendix A for F&R Personnel Accreditation Documentation.

For definitions of terms used in this document with regard to Lead-Based Paint, please reference the Glossary of the [U.S. Department of Housing and Urban Development \(HUD\) Guidelines for the Evaluation and Control of Lead-Based paint Hazards in Housing \(Second Edition, July 2012\)](#).

Based on the nature of this survey, when one component tests positive for the presence of lead similar painted/coated components shall be assumed to be lead-containing, unless additional testing is performed.

4.1. Lead-Based Paint Survey Methodology

The survey was conducted in general accordance with EPA's work practice standards for conducting LBP activities (40 CFR 745.227), and the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (Second Edition, July 2012); however, this was not a comprehensive surface-by-surface investigation for LBP, but rather a screening survey of major coated surfaces where the presence of LBP is suspected.

4.1.1. XRF Testing

Sampling of surface coatings was conducted utilizing a Heuresis Pb200i X-Ray Fluorescence (XRF) Lead Paint Analyzer (Serial Number 1504) (VA)). Only accessible painted, coated, and/or varnished surfaces were tested using the XRF.

The XRF contains a small radioisotopic source and operates on the principle of x-ray fluorescence, whereby lead atoms in a surface coating are stimulated to emit characteristic x-rays, which are



then detected by the instrument. Levels of lead are reported in units of milligrams per square centimeter (mg/cm²). The XRF can measure surface or non-surface concentrations of lead with 95% accuracy at the HUD action level of 1.0 mg/cm². The XRF is able to accurately detect a concentration as low as 0.1 mg/cm² of lead. The XRF classifies coated surfaces as “positive”, “negative”, or “null” for lead content based on the action level (1.0 mg/cm²) and the performance characteristics of the XRF. The XRF was checked for calibration before and after the survey. The calibration was checked against a standard reference material (1.04 mg/cm² NIST Standard) supplied by the XRF manufacturer. A copy of the XRF Performance Characteristic sheet is included as an attachment to this report.

Positive: Lead is present at or above the action level of 1.0 mg/cm² on *one or more* of the components tested.

Negative: Lead is not present at or above the action level of 1.0 mg/cm² on any of the components tested.

Null: Insufficient data was collected by the XRF during the sample time to determine if the surface is positive or negative (i.e. – premature removal or instrument slippage, terminating the test).

4.2. Lead-Based Paint Survey Findings

4.2.1. XRF Survey Results

A total of two-hundred-sixty-five (265) XRF readings, excluding calibration readings, were collected from the interior and exterior of the building. Thirty-one (31) of the readings collected at the Project site were positive for LBP when compared to the action level of 1.0 mg/cm². Note that all positive readings were collected from the 1930s building; LBP was not identified in the 1990s building. Refer to Appendix F, XRF Data Table for a listing of the readings and respective information as well as an explanation of the data table and the Performance Characteristic Sheet. The following table presents the positive readings collected.

XRF READINGS FOR LEAD-BASED PAINT

Reading Number	Component	Substrate	Side	Color	Floor	Room	Build Date
34	Door Casing	Wood	North	Blue	First	West Foyer	1930
35	Door Transom	Wood	North	Blue	First	West Foyer	1930
36	Window Sill	Concrete	West	White	First	Exterior	1930
37	Window Mullion	Metal	South	White	First	Exterior	1930
39	Door Casing	Wood	South	White	First	Exterior	1930



Reading Number	Component	Substrate	Side	Color	Floor	Room	Build Date
42	Wall – White Masonry Detail	Concrete	North	White	First	Exterior	1930
45	Window Well	Wood	West	White	First	Exterior	1930
48	Window Sash	Wood	West	White	First	Exterior	1930
49	Window Casing	Wood	West	White	First	Exterior	1930
54	Chair Rail – replacement piece	Wood	South	Blue	First	1	1930
79	Bulletin Board Above Chalkboard	Cork	West	White	First	3	1930
80	Bulletin Board Above Chalkboard	Cork	North	White	First	3	1930
93	Window Parting Bead	Wood	East	White	First – Exterior side	4	1930
125	Window Sash	Wood	North	Blue	First	6	1930
127	Window Sash	Wood	North	Blue	First	6	1930
129	Window Sash	Wood	North	Blue	First	Media Center	1930
131	Window Sash	Wood	North	Blue	First	Media Center	1930
136	Door Mullion	Wood	North	Blue	First	East Hallway	1930
159	Window Sash	Wood	North	Blue	First	8	1930
160	Window Sash	Wood	North	Blue	First	8	1930
177	Fascia	Wood	North	White	Stairwell	Boiler/Mech/Utility	1930
178	Roof Top	Metal	North	Red	Stairwell	Boiler/Mech/Utility	1930
179	Wall	Concrete	North	White	Basement – Room B	Boiler/Mech/Utility	1930
180	Wall	Concrete	North	White	Basement – Room B	Boiler/Mech/Utility	1930
181	Wall	Concrete	South	White	Basement – Room B	Boiler/Mech/Utility	1930
190	Door	Wood	West	White	Basement – Room A	Boiler/Mech/Utility	1930
195	Wall	Concrete	East	White	Basement – Room A	Boiler/Mech/Utility	1930
199	Wall	Concrete	East	White	Basement – Stairwell	Boiler/Mech/Utility	1930
246	Roof Top	Metal	N/A	Red	Exterior	Red Flashing "awning" at breezeway	1990



Reading Number	Component	Substrate	Side	Color	Floor	Room	Build Date
251	Fascia	Wood	N/A	White	Exterior	Original Gym Roof Perimeter	1930
257	Vent	Metal	N/A	White	Exterior	Original Gym Roof Perimeter	1930

Data collected during the survey was extrapolated to similar homogeneous areas. As such, painted materials sharing similar color and texture with LBP components on the above table should be presumed positive for lead.

Note that the exterior portions of the windows should be presumed positive based on the results; interior portions of perimeter windows were found to be LBP-coated on the north facing walls only. However, for the purposes of this survey, since the exterior portions were also found to be LBP coated, the entire window should be treated as having been coated with LBP.

4.3. Inaccessible or Presumed Lead-Based Paint

During the conduct of this survey, testing was limited to those materials which were safely accessible and did not require invasive sampling. As such, some materials should be presumed to be positive, unless sampling is conducted and shown to be negative. Such presumed LBP coated components include, but are not limited to:

- Painted components within the space above the drop ceilings;
- The interior of wall cavities or above hard ceilings.

4.4. Lead-Based Paint Conclusions & Recommendations

This survey concludes that building components located on both the exterior and interior of the structure contain lead-based paint/coatings. Photographic documentation of select lead-containing paint/coatings on building materials is presented in Appendix E: Section 2.

F&R recommends that activities which may disturb such coatings be conducted following appropriate Federal and State regulations. Federal regulations with regard to worker safety and disposal requirements are summarized in the following Section – Applicable Regulations; this is not an exhaustive list.

Should additional suspect LBP coated components be discovered during renovation and/or demolition activities that have not been evaluated but will be disturbed, F&R recommends work be temporarily halted. Samples of suspect materials should be evaluated and handled accordingly prior to the resumption of renovation and/or demolition activities.



In addition to the above, F&R recommends that routine maintenance of the building be conducted to prevent or reduce risk associated with extant lead based paint. These measures should correspond to Chapter 6 of the *HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (Second Edition, July 2012)* which notes the following components of ongoing lead-safe maintenance:

- Periodic Visual Assessments
- Correction of problems found in the visual assessments
- Using lead-safe work practices
- Conducting a clearance examination

4.5. Applicable Regulations

4.5.1. OSHA Regulations for Lead-Based Paint

While the majority of materials tested at the site were negative for lead based paint and/or surface coatings, other painted and/or coated surfaces or materials containing lead may contain sufficient concentrations of lead, which when disturbed, may generate lead dust greater than the "Action Level" concentration of 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) or greater than the "Permissible Exposure Limit" of 50 micrograms per cubic meter established by the OSHA "Lead Exposure in Construction Rule" (29 CFR 1926.62). The OSHA standard does not define acceptable levels of lead in paint at which no exposure to airborne lead (above the action level) would be expected; however, guidance is available for work practices which present the highest risk for lead exposure to workers. Rather, OSHA defines airborne concentrations and references specific types of work practices and operations from which a lead hazard may be generated (reference 29 CFR 1926.62, section d). Environmental and personnel monitoring should be conducted during removal or demolition processes (as applicable) to determine actual personal exposure. This monitoring information can be used to determine the levels of personnel protection and environmental controls required for work involving specific removal/demolition processes on specific structures. Under OSHA requirements, the Contractor performing the work will be required to conduct this monitoring. It is important to note that environmental controls will vary dependent upon the content of lead in paint, the process used to remove it, duration of the work, and the amount of paint to be removed.

F&R recommends that workers disturbing painted (or coated) surfaces as part of this project receive OSHA Lead in Construction Awareness training and that engineering controls and hygiene practices described in 29 CFR 1926.62 be followed during the disturbance of painted (or coated) surfaces.



4.5.2. EPA Regulations for Lead-Based Paint

For disposal of construction/demolition debris that has LBP, testing may be required as specified by the Environmental Protection Agency (EPA) for lead content to determine proper disposal. EPA regulations require that a generator of waste determine if that waste is hazardous by performing testing in accordance with the requirements of 40 CFR 261.11 or for wastes that may be RCRA hazardous (such as items with high lead content), the generator may assume that the waste is hazardous and comply with the hazardous waste regulation. The need for determination of disposal may be additionally subject to the disposal and/or recycling facility utilized.

If the facility will be occupied by children in a manner that would qualify the facility as "child occupied" under the US EPA RRP regulations found under 40 CFR 745, the Renovation, Repair, and Painting (RRP) Regulation would apply. In that case, if renovation work is completed at the facility, under, any Contractor shall complete all renovation work that will affect LBP coated surfaces in accordance with the requirements found in 40 CFR 745. The Contractor would be required to submit documentation of compliance with this standard to the Client prior to start-up of work, including personal training, certification of personal, and a means and methods work plan to comply with the RRP regulations.

5.0 LIMITATIONS

This report has been prepared for the exclusive use of the County of Roanoke and/or their agents. This service was performed in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made. Conclusions and recommendations are based, in part, upon information provided to us by others and site observations. We have not verified the completeness or accuracy of the information provided by others, unless otherwise noted. Observations and recommendations are based upon conditions readily visible at the site at the time of the site visit, and upon current industry standards.

During this study, suspect asbestos samples were submitted for analysis at a NVLAP-accredited laboratory via polarized light microscopy; suspect LBP was field characterized using industry standard methods and practices. Inaccessible areas, such as behind solid ceilings or behind solid walls were not surveyed; therefore, some target materials may not have been identified. As with similar surveys of this nature, actual conditions exist only at the precise locations from which samples were collected or tested. Areas inspected were limited to those designated by the scope of services by the Client. Certain inferences are based on the results of this sampling and related testing to form a professional opinion of conditions in areas beyond those from which the samples were collected. Unless otherwise noted, F&R does not claim to have performed exhaustive delineation and/or quantification of identified materials; it is the responsibility of the client or abatement contractor to verify locations and quantities of regulated materials. It is also understood that this is a non-invasive survey so that it is possible that concealed materials may be present that were not accessible during the original survey. No other warranty, expressed or



implied, is made. Reasonable effort was made by inspection personnel to locate and sample suspect materials within the structure with regard to the scope of services. However, for a facility, the existence of unique or concealed ACMs or LBP and debris is a possibility. F&R does not warrant, guarantee or profess to have the ability to locate or identify all ACMs, LBP, or other chemicals of concern in a facility.

Under this scope of services, F&R assumes no responsibility regarding response actions (e.g. O&M Plans, Encapsulation, Abatement, Removal, Tenant Notification, etc.) initiated as a result of these findings. F&R assumes no liability for the duties and responsibilities of the Client with respect to compliance with appropriate regulations. Compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements and should be performed by appropriately qualified and licensed/accredited personnel, as warranted.

Froehling & Robertson, Inc. by virtue of providing the services described in this report, does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to local, state, or federal public agencies conditions at the site that may present a potential danger to public health, safety, or the environment. The Client agrees to notify the appropriate local, state, or federal public agencies as required by law, or otherwise to disclose, in a timely manner, information that may be necessary to prevent danger to public health, safety, or the environment. The contents of the report should not be construed in any way as a recommendation to purchase, sell, or develop the project site. F&R retains the right to revise this report if new information is later discovered or made available. The report must be presented in its entirety.

Appendix A

F&R Personnel and Laboratory Accreditations

DPOR License Lookup License Number 3303003557

License Details

Name	PHILLIPS, JESSE DAVID
License Number	3303003557
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	ROANOKE, VA 24018
Initial Certification Date	2010-04-23
Expiration Date	2020-04-30

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DPOR License Lookup License Number 3356001002

License Details

Name	PHILLIPS, JESSE DAVID
License Number	3356001002
License Description	Lead Risk Assessor License
Rank	Lead Abatement Risk Assessor
Address	ROANOKE, VA 24018
Initial Certification Date	2012-06-29
Expiration Date	2020-06-30

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April 30, 2018

Laboratory ID: 100420

Julie Dickerson
Environmental Hazards Services, LLC
7469 White Pine Road
Richmond, VA 23237

Dear Ms. Dickerson:

Congratulations! The AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC's Analytical Accreditation Board (AAB) has approved Environmental Hazards Services, LLC as an accredited Industrial Hygiene, Environmental Lead and Environmental Microbiology laboratory.

Accreditation documentation includes the IHLAP, ELLAP and EMLAP accreditation certificate, scope of accreditation document and a copy of the current AIHA-LAP, LLC license agreement (if your completed agreement is not on file at AIHA-LAP, LLC). The accreditation symbol has been designed for use by all AIHA-LAP, LLC accredited laboratories. If your laboratory chooses to use the symbol in its advertising the laboratory's accreditation, you must complete and return the AIHA-LAP, LLC license agreement to a Laboratory Accreditation Specialist. Once submitted, an electronic copy of the accreditation symbol will be sent to you.

Laboratory accreditation shall be maintained by continued compliance with IHLAP, ELLAP and EMLAP requirements (*see Policy Modules 2B, 2C, 2D, and 6*), which includes proficient participation in AIHA-LAP, LLC approved proficiency testing, demonstration of competency, or round robin program as indicated on the AIHA-LAP "Approved PT and Round Robin" webpage, its associated Scope/PT table, and as required in Policy Module 6, for all Fields of Testing (FoTs) for which the laboratory is accredited. An accredited laboratory that wishes to expand into a new FoT must submit an updated accreditation application to AIHA-LAP, LLC for review by the AAB.

Any changes in ownership, laboratory location, personnel, FoTs/Methods, or significant procedural changes shall be reported to AIHA-LAP, LLC in writing within twenty (20) business days of the change.

The accreditation certificate is the property of AIHA-LAP, LLC and must be returned to us should your laboratory withdraw or be removed from the IHLAP, ELLAP and EMLAP.

Again, congratulations. If you have any questions, please contact Lauren Schnack, Laboratory Accreditation Specialist, at (703) 846-0716.

Sincerely,

A handwritten signature in black ink that reads "Cheryl O. Morton".

Cheryl O. Morton
Managing Director



April 30, 2018

Laboratory ID: 100420

Julie Dickerson
Environmental Hazards Services, LLC
7469 White Pine Road
Richmond, VA 23237

Dear Ms. Dickerson:

Congratulations! The AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC's Analytical Accreditation Board (AAB) has approved Environmental Hazards Services, LLC as an accredited Industrial Hygiene, Environmental Lead and Environmental Microbiology laboratory.

Accreditation documentation includes the IHLAP, ELLAP and EMLAP accreditation certificate, scope of accreditation document and a copy of the current AIHA-LAP, LLC license agreement (if your completed agreement is not on file at AIHA-LAP, LLC). The accreditation symbol has been designed for use by all AIHA-LAP, LLC accredited laboratories. If your laboratory chooses to use the symbol in its advertising the laboratory's accreditation, you must complete and return the AIHA-LAP, LLC license agreement to a Laboratory Accreditation Specialist. Once submitted, an electronic copy of the accreditation symbol will be sent to you.

Laboratory accreditation shall be maintained by continued compliance with IHLAP, ELLAP and EMLAP requirements (see *Policy Modules 2B, 2C, 2D, and 6*), which includes proficient participation in AIHA-LAP, LLC approved proficiency testing, demonstration of competency, or round robin program as indicated on the AIHA-LAP "Approved PT and Round Robin" webpage, its associated Scope/PT table, and as required in Policy Module 6, for all Fields of Testing (FoTs) for which the laboratory is accredited. An accredited laboratory that wishes to expand into a new FoT must submit an updated accreditation application to AIHA-LAP, LLC for review by the AAB.

Any changes in ownership, laboratory location, personnel, FoTs/Methods, or significant procedural changes shall be reported to AIHA-LAP, LLC in writing within twenty (20) business days of the change.

The accreditation certificate is the property of AIHA-LAP, LLC and must be returned to us should your laboratory withdraw or be removed from the IHLAP, ELLAP and EMLAP.

Again, congratulations. If you have any questions, please contact Lauren Schnack, Laboratory Accreditation Specialist, at (703) 846-0716.

Sincerely,

A handwritten signature in black ink that reads "Cheryl O. Morton".

Cheryl O. Morton
Managing Director



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Environmental Hazards Services, LLC

7469 White Pine Road, Richmond, VA 23237

Laboratory ID: 100420

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓ INDUSTRIAL HYGIENE	Accreditation Expires: May 01, 2020
✓ ENVIRONMENTAL LEAD	Accreditation Expires: May 01, 2020
✓ ENVIRONMENTAL MICROBIOLOGY	Accreditation Expires: May 01, 2020
<input type="checkbox"/> FOOD	Accreditation Expires:
<input type="checkbox"/> UNIQUE SCOPES	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

A handwritten signature in black ink that reads 'Beth Bair'.

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Revision 16: 03/21/2018

A handwritten signature in black ink that reads 'Cheryl O. Morton'.

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 04/30/2018



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Environmental Hazards Services, LLC

7469 White Pine Road, Richmond, VA 23237

Laboratory ID: **100420**

Issue Date: 08/15/2018

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 03/01/1990

IHLAP Scope Category	Field of Testing (FoT) (FoTs cover all relevant IH matrices)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte (for internal methods only)
Chromatography Core	Gas Chromatography	GC/ECD	NIOSH 5503	
Spectrometry Core	Inductively-Coupled Plasma	ICP/AES	ASTM E1979-17	
			EPA SW-846 6010D	
			NIOSH 7300 Modified	
	Infrared		NIOSH 7602	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	
Miscellaneous Core	Gravimetric		NIOSH 0500	
			NIOSH 0600	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at:
<http://www.aihaaccreditedlabs.org>

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Environmental Hazards Services, LLC

7469 White Pine Road, Richmond, VA 23237

Laboratory ID: **100420**

Issue Date: 04/30/2018

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 03/01/1999

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description (for internal methods only)
Paint		ASTM E1979-17	
		EPA SW-846 3050B	
		EPA SW-846 6010D	
		EPA SW-846 7000B	
Soil		ASTM E1979-17	
		EPA SW-846 3050B	
		EPA SW-846 6010D	
		EPA SW-846 7000B	
Settled Dust by Wipe		ASTM E1979-17	
		EPA SW-846 3050B	
		EPA SW-846 6010D	
		EPA SW-846 7000B	
Airborne Dust		ASTM E1979-17	
		EPA SW-846 6010D	
		EPA SW-846 7000B	
		NIOSH 7082	
		NIOSH 7300 Modified	
Composited Wipes		ASTM E1979-17 Modified	
		EPA SW-846 6010D	
		EPA SW-846 7000B	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at:
<http://www.aihaaccreditedlabs.org>



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Environmental Hazards Services, LLC

7469 White Pine Road, Richmond, VA 23237

Laboratory ID: **100420**

Issue Date: 04/30/2018

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: **03/01/2005**

EMLAP Category	Field of Testing (FoT)	Method	Method Description (for internal methods only)
Fungal	Air - Direct Examination	SOP H	In-House: Analysis of Spore Trap Samples
	Bulk - Direct Examination	SOP H	In-House: Analysis of IAQ Bulk Samples
	Surface - Direct Examination	SOP H	In-House: Analysis of IAQ Surface Samples

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101882-0

Environmental Hazards Services, L.L.C.
N. Chesterfield, VA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

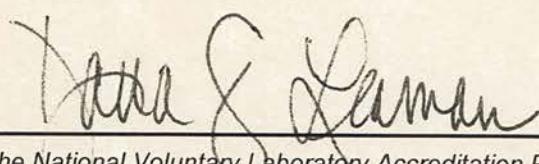
Asbestos Fiber Analysis

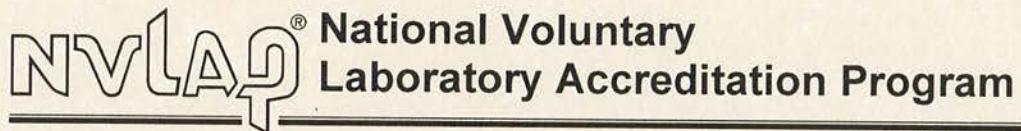
*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2019-01-01 through 2019-12-31

Effective Dates




For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Environmental Hazards Services, L.L.C.

7469 Whitepine Road
N. Chesterfield, VA 23237-2261
Ms. Julie Dickerson
Phone: 804-275-4788 Fax: 804-275-4907
Email: jdickerson@leadlab.com
<http://www.leadlab.com>

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101882-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

For the National Voluntary Laboratory Accreditation Program

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

12-31-2019

NUMBER

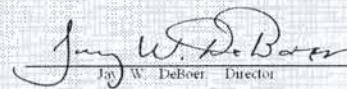
3333000340

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS ASBESTOS ANALYTICAL LABORATORY LICENSE PCM PLM



ENVIRONMENTAL HAZARDS SERVICES LLC
7469 WHITEPINE ROAD
RICHMOND, VA 23237-0000

DPOR



Jay W. DeBoer, Director

Status can be verified at <http://www.dpor.virginia.gov>

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS ASBESTOS ANALYTICAL LABORATORY LICENSE

PCM PLM

NUMBER: 3333000340 EXPIRES: 12-31-2019

ENVIRONMENTAL HAZARDS SERVICES LLC
7469 WHITEPINE ROAD
RICHMOND, VA 23237-0000



(FOLD)

Status can be verified at <http://www.dpor.virginia.gov>

DPOR-LIC (02/2017)

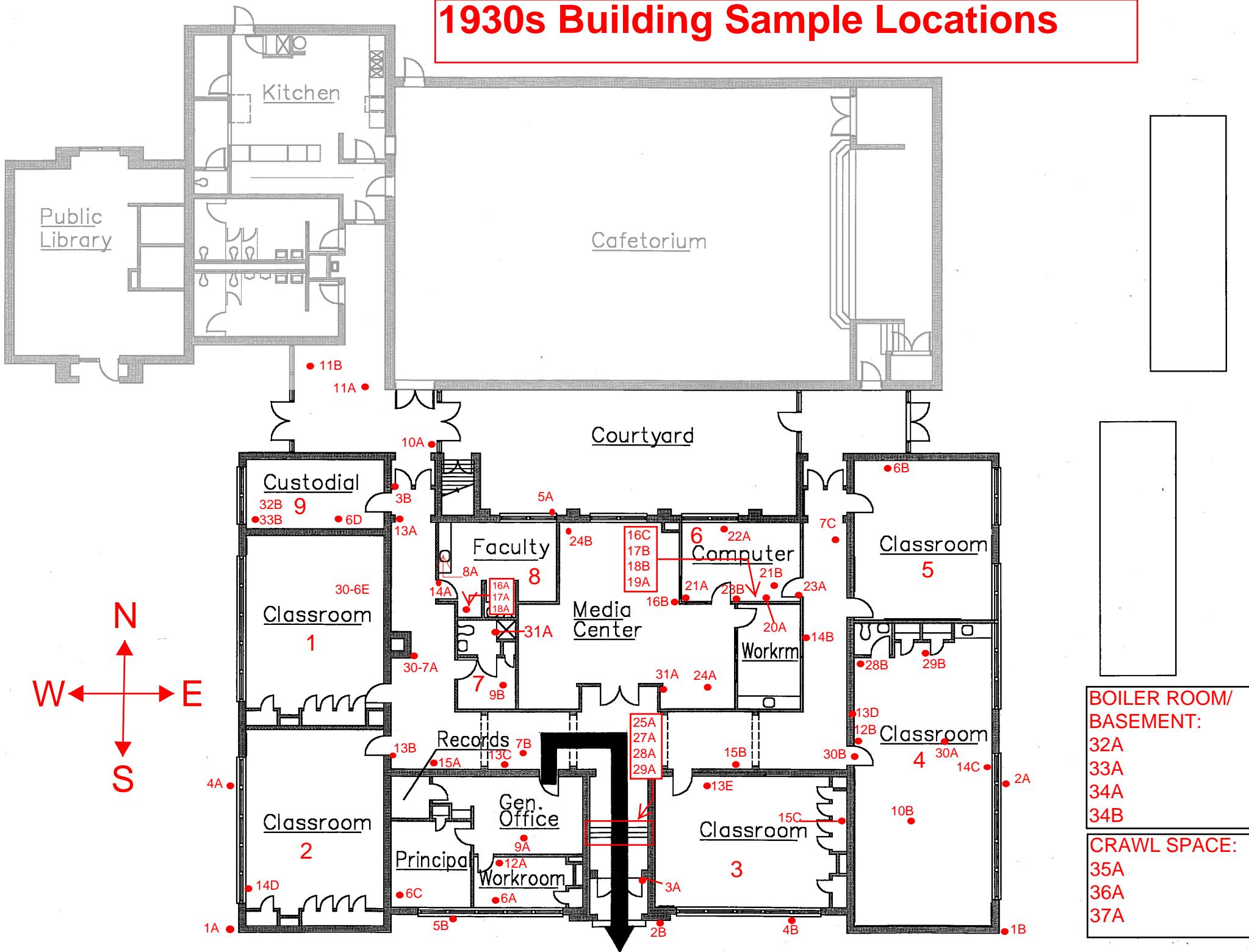
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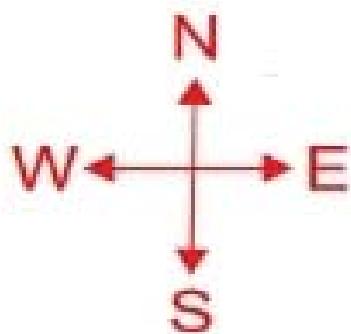
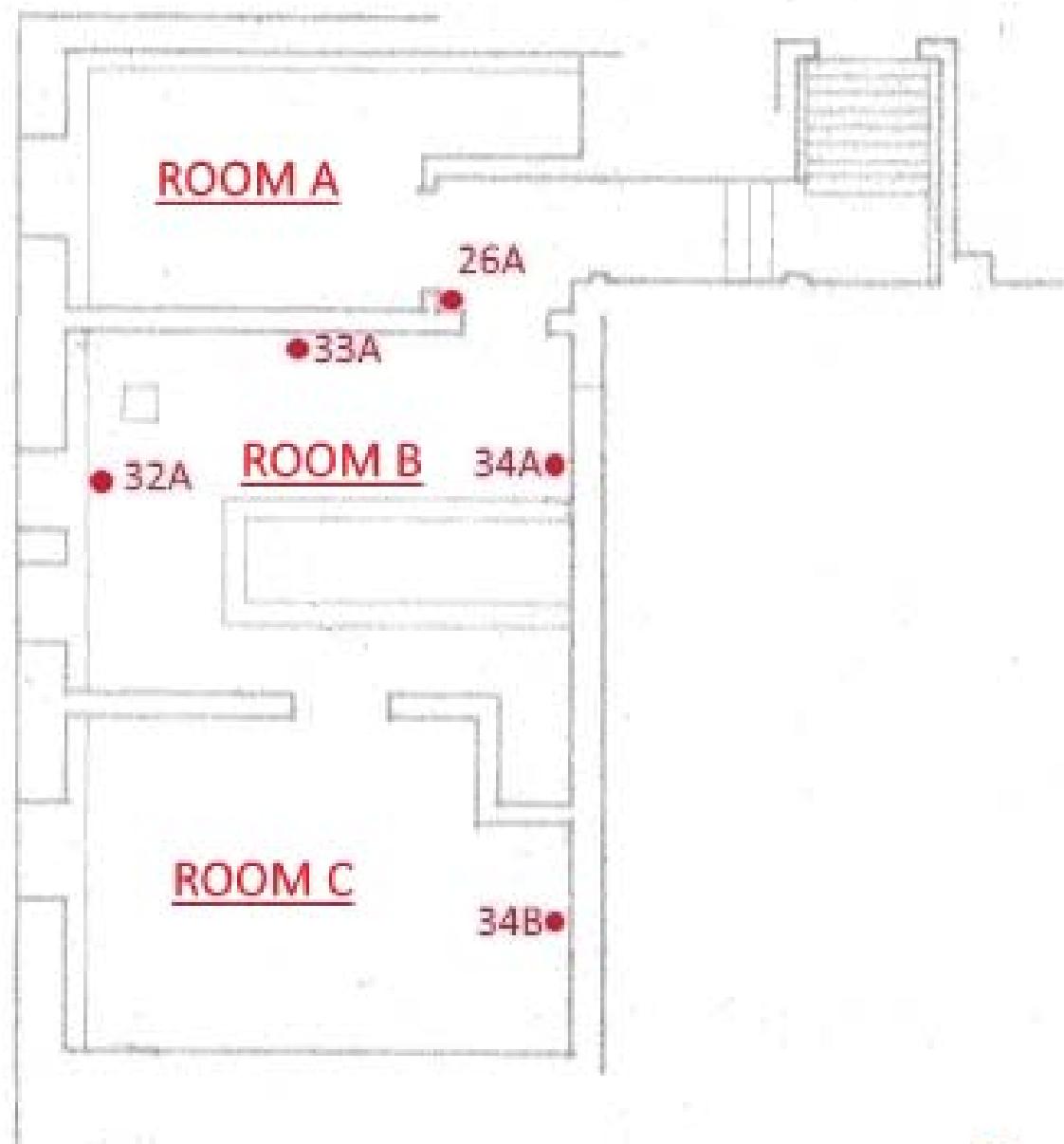
DPOR-PC (02/2017)

Appendix B

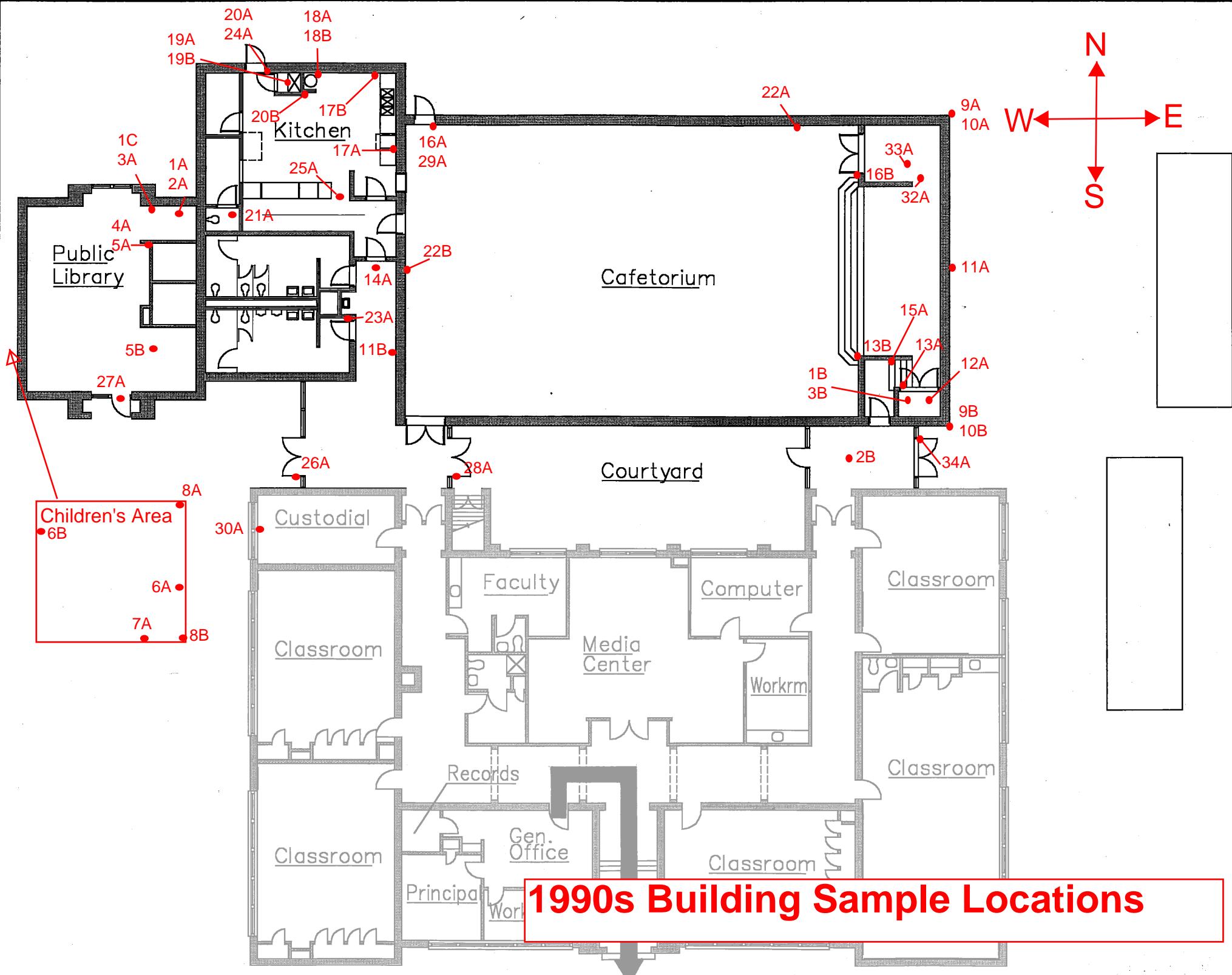
Facility Sketch:
Sample Locations

1930s Building Sample Locations





1930s Basement Sample Locations



Appendix C

Historical Documentation

Roanoke County Schools

Three Year AHERA Reinspection

Bent Mountain Elementary School

Facility 012

Reinspection Date:

March 4, 2008

Baratta & Associates, Inc
PO Box 293
Vinton, Virginia 24179
540-890-4875

Michael Baratta, PE
Virginia Asbestos Inspector License: 3303-000065
Virginia Asbestos Management Planner License: 3304-000208

Document A

Baratta & Associates, Inc.Virginia Department of Education
Energy and Facilities Service

LEA Roanoke County Schools
 School 012 Bent Mountain Elementary School
 Building All

SCHOOL BUILDINGS

Building Name	Location	Check here for the presence of:				No ACBM	
		ACBM		Suspect ACBM			
		Friable	Non- friable	Friable	Non- friable		
Bent Mountain Elementary School	10148 Tinsley Lane Bent Mountain, VA 24059						
	001 Main Building	X					
	002 Addition (Annex)					Note 1	
	003 Trailer					X	

Note 1

The Addition (Annex) was demolished about 1990

Inspector:

Name: Michael Baratta Signature  Date 3/28/06
 Accreditation Number: 3303 000065 Agency: Virginia DPOR

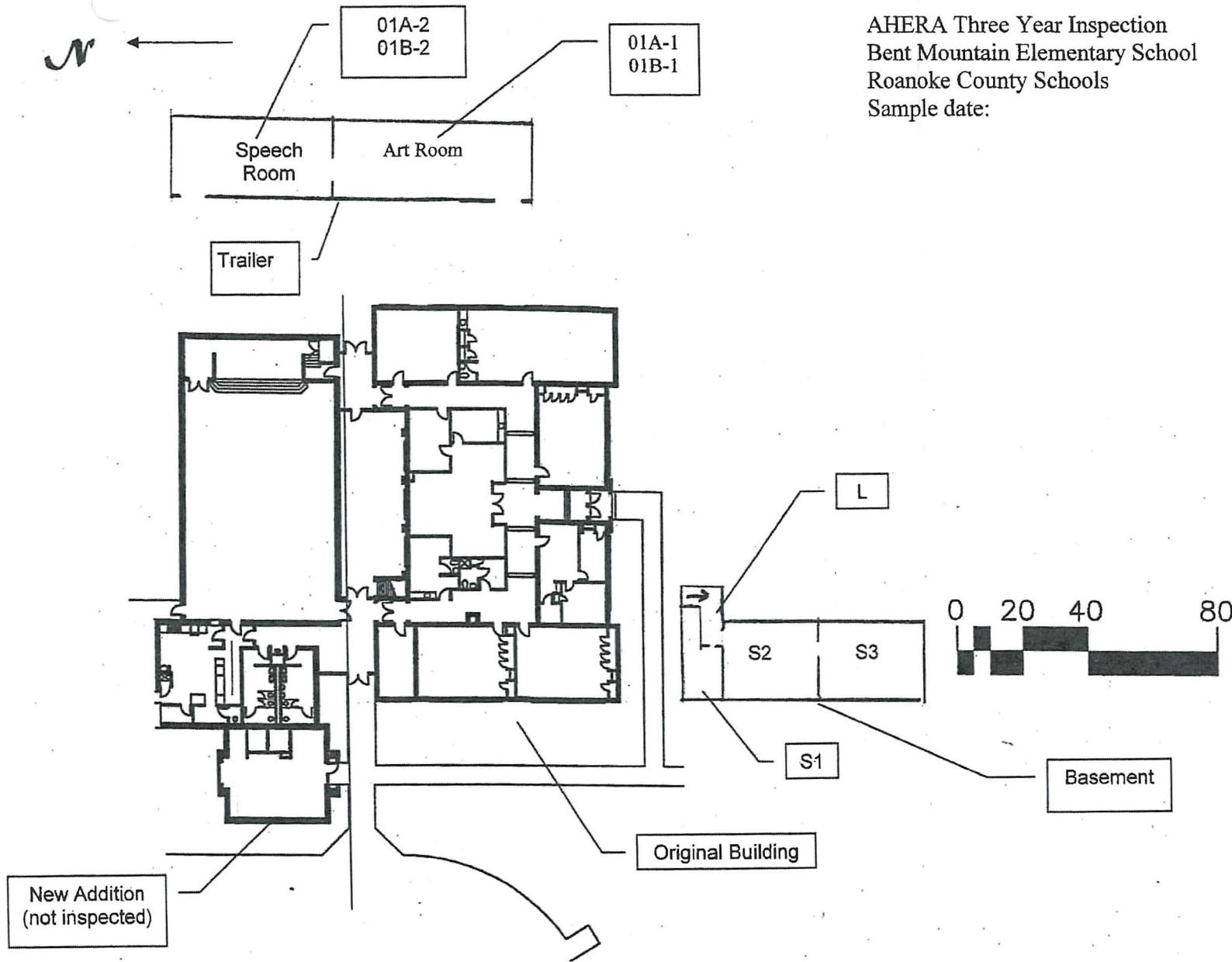
Virginia Department of Education Energy and Facilities Services

LEA Roanoke County Schools
School: 012 Bent Mountain Elementary School
Building: 003 Trailer

DETERMINATION OF EACH SAMPLE AREA

The floor tile (HA-01) assumed to be an ACM by H-K in 1988. We subdivided HA-01 in two areas (HA-01A for the tile and HA-01B for the mastic) and obtained two (2) samples of each

Name: Michael Baratta Signature  Date 3/28/08
Accreditation Number: 3303 000065 Agency: Virginia DPOR



AHERA Three Year Inspection
 Bent Mountain Elementary School
 Roanoke County Schools
 Sample date:

All Buildings
 Sample Locations
 L001
 March 4, 2008

Virginia Department of Education Energy and Facilities Services

BULK SAMPLE ANALYSIS

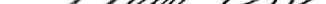
Document E.1

LEA Roanoke County Schools
School: 012 Bent Mountain Elementary School
Building: 003 Trailer
Sample Date: March 4, 2008
Analysis Date: March 6, 2008
Analysis Method: PLM EPA 6000/M4-82-020

The floor tiles and associated mastics used in the trailer can now be deemed non-ACMs.

NAD – no asbestos detected

See attached AmeriSci PLM Bulk Asbestos Report Number 108031119

Name: Michael Baratta Signature  Date 3/28/08
Accreditation Number: 3303 000065 Agency: Virginia DPOR



AmeriSci Richmond

13635 GENITO ROAD
MIDLOTHIAN, VA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

March 6, 2008

Baratta & Associates, Inc.
Attn: Michael Baratta
1150 Shady Run Road
Vinton, VA 24179

RE: Baratta & Associates, Inc.
Job Number 108031119
P.O. #L001
L001; AHERA; Bent Mountain Els

Dear Michael Baratta:

Enclosed are the results for PLM asbestos analysis of the following Baratta & Associates, Inc. samples received at AmeriSci on Thursday, March 06, 2008, for a 48 hour turnaround:

01A-1, 01A-2, 01B-1, 01B-2

The 4 samples contained in zip lock bag were shipped to AmeriSci via Fed Ex 8621 8375 0562 B. These samples were prepared and analyzed according to the EPA Interim Method (EPA 600/M4-82-020 per 40 CFR 763, subpt F, App. A). The required analytical information, analysis results, analyst signature and laboratory identification is contained in the Analyst's Report.

This report relates ONLY to the sample analysis expressed as percent asbestos. AmeriSci assumes no responsibility for customer supplied data such as "sample type", "location", or "area sampled". This report must not be used to claim product endorsement by AmeriSci, NVLAP or any agency of the U. S. Government. The National Institute of Standards and Technology Accreditation requirements, mandates that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

A handwritten signature in black ink that reads "T. Brian Keith" followed by "for TBK".

T. Brian Keith
Asbestos Laboratory Director



AmeriSci Richmond

13635 GENITO ROAD

MIDLOTHIAN, VIRGINIA 23112

TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Baratta & Associates, Inc.
Attn: Michael Baratta
1150 Shady Run Road
Vinton, VA 24179

Date Received 03/06/08 **AmeriSci Job No.** 108031119
Date Examined 03/06/08 **P.O. #** L001
Page 1 **of** 2
RE L001; AHERA; Bent Mountain Els

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01A-1	108031119-01	No	NAD (by CVES) by David W. Ralbovsky on 03/06/08
	Location: Floor Tile		
Analyst Description:	Lt. Gray, Heterogeneous, Non-Fibrous, Bulk Material		
Asbestos Types:			
Other Material:	Non-fibrous 100 %		
01A-2	108031119-02	No	NAD (by CVES) by David W. Ralbovsky on 03/06/08
	Location: Floor Tile		
Analyst Description:	Lt. Gray, Heterogeneous, Non-Fibrous, Bulk Material		
Asbestos Types:			
Other Material:	Non-fibrous 100 %		
01B-1	108031119-03	No	NAD (by CVES) by David W. Ralbovsky on 03/06/08
	Location: Floor Tile Mastic		
Analyst Description:	Amber, Heterogeneous, Non-Fibrous, Bulk Material		
Asbestos Types:			
Other Material:	Cellulose 5 %, Non-fibrous 95 %		
01B-2	108031119-04	No	NAD (by CVES) by David W. Ralbovsky on 03/06/08
	Location: Floor Tile Mastic		
Analyst Description:	Amber, Heterogeneous, Non-Fibrous, Bulk Material		
Asbestos Types:			
Other Material:	Cellulose 3 %, Non-fibrous 97 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

L001; AHERA; Bent Mountain Els

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
------------------	---------	------------------	------------------

Reporting Notes:

Analyzed by: David W. Ralbovsky Date 3/6/18

"NAD = no asbestos detected, Detection Limit = 1%, Reporting Limits; CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%;

"Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples (198.6 for NOB samples)(NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: DR

Baratta & Associates, Inc.
 P.O. Box 293
 Vinton, Virginia

LEA Roanoke County Schools
 School 012 Bent Mountain Elementary School
 Building 001 Main Building

REASSESSMENT OF MATERIALS

Past or Initial Assessment: Hall-Kimbrell April 1989

The TSI had been removed from the boiler room and basement. Only one small piece of HA -07 remains in the basement.

Homogeneous Area	Description	Past Assessment Category #	Reassessment Category #
02	Blown-in Insulation	Non-ACM	Non-ACM
03	Fitting Muds on Low Pressure steam lines (note 1)	1	Removed
04	Pipe run TSI on Low Pressure steam lines (note 1)	1	Removed
05	Boiler TSI	1	Removed
06	Fitting Muds in Boiler Room	1	Removed
07	Pipe run TSI in Boiler Room (note 2)	1	7

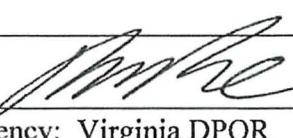
Note 1 Our inspector did not observe any suspect TSI in the areas once designated as the stage and multipurpose room. However, HA-06 and 07 may still exist in the wall and ceiling spaces of the main building

Note 2 The ACM in the basement and boiler room was abated after 1988. One small piece of Aircell TSI remains in the wall between the stair landing and Room S1

AHERA - Physical Assessment Categories - 763.88(a)(2)(b)

- 1 Damaged or significantly damaged TSI-ACBM
- 2 Damaged friable surfacing ACBM
- 3 Significantly damaged friable surfacing ACBM
- 4 Damaged or significantly damaged friable miscellaneous ACBM
- 5 ACBM with potential for damage
- 6 ACBM with potential for significant damage
- 7 Any remaining friable ACBM or friable suspect ACBM

Inspector:

Name: Michael Baratta Signature  Date 3/18/08
 Accreditation Number: 3303 000065 Agency: Virginia DPOR

Baratta & Associates, Inc.
P.O. Box 293
Vinton, Virginia

LEA Roanoke County Schools
School 012 Bent Mountain Elementary School
Building 002 Addition (Annex)

REASSESSMENT OF MATERIALS

Past or Initial Assessment: Hall-Kimbrell April 1989

The Addition (Annex) was demolished about 1990s

AHERA - Physical Assessment Categories - 763.88(a)(2)(b)

- 1 Damaged or significantly damaged TSI-ACBM
- 2 Damaged friable surfacing ACBM
- 3 Significantly damaged friable surfacing ACBM
- 4 Damaged or significantly damaged friable miscellaneous ACBM
- 5 ACBM with potential for damage
- 6 ACBM with potential for significant damage
- 7 Any remaining friable ACBM or friable suspect ACBM

Inspector:

Name: Michael Baratta Signature

Accreditation Number: 3303 000065 Agency: Virginia DPOR

Date

3/28/09

Baratta & Associates, Inc.

P.O. Box 293
Vinton, Virginia

LEA Roanoke County Schools
School 012 Bent Mountain Elementary School
Building 003 Trailer

REASSESSMENT OF MATERIALS

Past or Initial Assessment: Hall-Kimbrell April 1989

AHERA - Physical Assessment Categories - 763.88(a)(2)(b)

- 1 Damaged or significantly damaged TSI-ACBM
- 2 Damaged friable surfacing ACBM
- 3 Significantly damaged friable surfacing ACBM
- 4 Damaged or significantly damaged friable miscellaneous ACBM
- 5 ACBM with potential for damage
- 6 ACBM with potential for significant damage

7 Any remaining friable ACM or friable suspect ACM

Inspector:

Name: Michael Baratta Signature  Date 31-09-03
Accreditation Number: 3303 000065 Agency: Virginia DPOR

LOCATION OF ACBMs

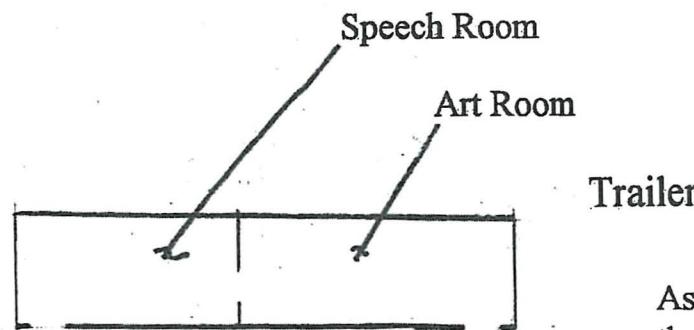
012 Bent Mountain E/S

Building Complex

Scale: see drawing

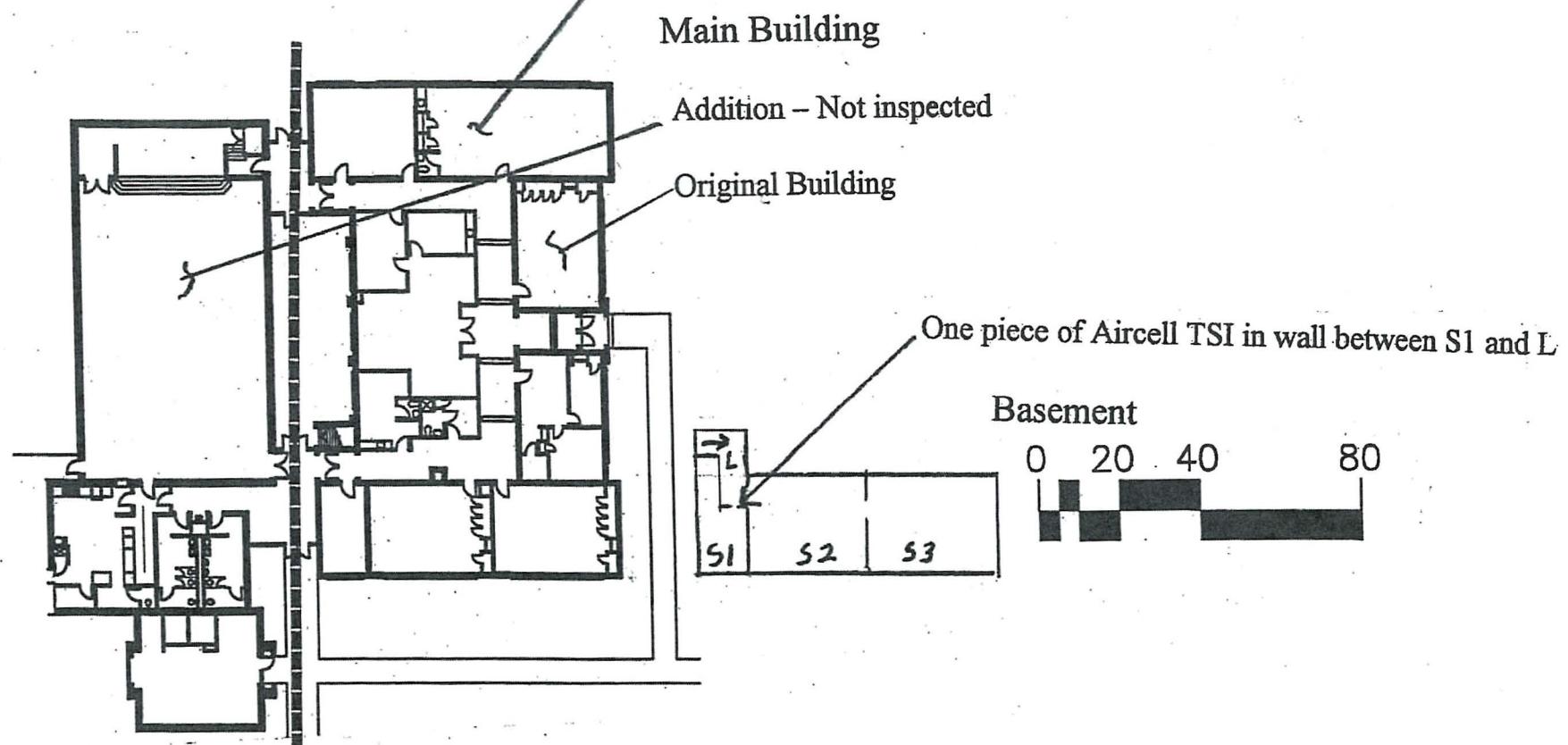
Reinspection Date

March 4, 2008



Trailer

Asbestos containing fitting muds may exist inside
the walls of the original building



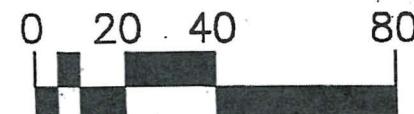
Main Building

Addition - Not inspected

Original Building

One piece of Aircell TSI in wall between S1 and L

Basement



Document G

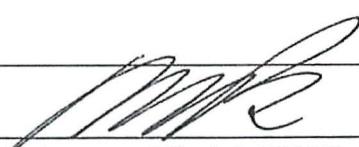
Virginia Department of Education
Energy and Facilities Service

LEA Roanoke County Schools
School 012 Bent Mountain Elementary School
Building: 001 Main Building

**RESPONSE ACTIONS
RECOMMENDED**

Total cost to remove \$500.00

Each Location	Recommended Response Actions	Scheduled To Begin	Scheduled To Be Completed	Est. Cost To Remove
HA-07 one piece of Aircell TSI in Basement wall	Remove when other abatement work is scheduled	none	none	\$500.00

Management Planner:
Name: Michael Baratta Signature  Date 3/29/08
Accreditation Number: 3304 000208 Agency: Virginia DPOR

ASBESTOS MANAGEMENT, OPERATIONS AND MAINTENANCE PLAN

Bent Mountain Elementary School

March 20, 2008

This Asbestos Management Operations and Maintenance Plan is based on the three year AHERA Reinspection performed by Baratta & Associates, Inc on March 4, 2008. It covers procedures to be followed in dealing with the Asbestos-Containing Materials (ACMs) found in the Bent Mountain Elementary School.

SUMMARY

The ACMs in the basement had been removed. Only one small piece of asbestos containing thermal system insulation (TSI) remains in the basement.

Some asbestos containing TSI may exist inside the walls of the original building.

STAFF NOTIFICATION

The School should send all staff members a brief notice stating that Asbestos-Containing Materials exist in the Basement and possibly inside the walls on the original building.

ACM IDENTIFICATION

The following products were found to be Asbestos-Containing Materials (ACMs):

HA Number	Material	Remarks
03	Fitting Muds on Low Pressure steam lines	Possibly inside walls
04	Pipe run TSI on Low Pressure steam lines	Possibly inside walls
07	Pipe run TSI in Boiler Room	One small piece in Basement

CARE OF THE THERMAL SYSTEM INSULATION (TSI) IN CONCEALED SPACES

Asbestos containing pipe fitting muds may be hidden inside the walls of the original building. They do not present an asbestos related health hazard to those occupying the building. It is unlikely that the administrative staff, teaching staff, students, or visitors will encounter these products (if they in fact exist.)

Contractor and maintenance personnel should be aware of the possibility of encountering these ACMs if they need to access the spaces within the walls.

Appendix D

1930s Building

Laboratory Certificates of Analysis
Bulk Sample Chain of Custody Forms



Environmental Hazards Services, L.L.C.

7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Asbestos Bulk Analysis Report

Report Number: 19-08-02034

Client: Froehling & Robertson Inc. - Roanoke
1734 Seibel Drive, N.E.
Roanoke, VA 24012

Received Date: 08/13/2019
Analyzed Date: 08/15/2019
Reported Date: 08/16/2019

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Client Number:
48-4628

Fax Number:
540-344-3657

Laboratory Results

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-001A	1930-1A	Brick	Red Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-001B	1930-1A	Mortar	Tan Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-002A	1930-1B	Brick	Red Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-002B	1930-1B	Mortar	Tan Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-003	1930-2A		Gray/Beige Cementitious; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02034

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-004	1930-2B		Gray/Beige Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-005	1930-3A		White Paint-Like; White Pliable; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-006A	1930-3B	Caulk I	Blue Paint-Like; Beige Soft Pliable-Like; Inhomogeneous	3% Chrysotile Total Asbestos: 3%	97% Non-Fibrous
19-08-02034-006B	1930-3B	Caulk II	Gray Soft Pliable-Like; Homogeneous	3% Chrysotile Total Asbestos: 3%	97% Non-Fibrous
19-08-02034-007	1930-4A		White Paint-Like; Tan Brittle; Inhomogeneous	2% Chrysotile Total Asbestos: 2%	98% Non-Fibrous
19-08-02034-008	1930-4B		Gray/White Brittle; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-009	1930-5A		White Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-010A	1930-5B	Caulk I	White Pliable; Homogeneous	Trace <1% Chrysotile Total Asbestos: Trace <1%	100% Non-Fibrous

Possible contamination from caulk II

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02034

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-010B	1930-5B	Caulk II	Gray Soft Pliable; Homogeneous	3% Chrysotile	97% Non-Fibrous
Total Asbestos: 3%					
19-08-02034-011A	1930-6A	Skim Coat	Beige Granular; Homogeneous	NAD	100% Non-Fibrous
Total Asbestos: 0%					
19-08-02034-011B	1930-6A	Base Coat	Gray Granular; Homogeneous	Trace <1% Chrysotile	2% Hair 98% Non-Fibrous
Total Asbestos: Trace <1%					
19-08-02034-012A	1930-6B	Skim Coat	Blue Paint-Like; White Brittle; Inhomogeneous	NAD	100% Non-Fibrous
Total Asbestos: 0%					
19-08-02034-012B	1930-6B	Base Coat	Gray Granular; Homogeneous	Trace <1% Chrysotile	2% Hair 98% Non-Fibrous
Total Asbestos: Trace <1%					
19-08-02034-013A	1930-6C	Skim Coat	Beige Granular; Homogeneous	NAD	100% Non-Fibrous
Total Asbestos: 0%					
19-08-02034-013B	1930-6C	Base Coat	Gray Granular; Homogeneous	Trace <1% Chrysotile	2% Hair 98% Non-Fibrous
Total Asbestos: Trace <1%					
19-08-02034-014A	1930-6D	Skim Coat	White Granular; Homogeneous	NAD	100% Non-Fibrous
Total Asbestos: 0%					

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02034

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-014B	1930-6D	Base Coat	Gray Granular; Homogeneous	Trace <1% Chrysotile	2% Hair 98% Non-Fibrous
Total Asbestos: Trace <1%					
19-08-02034-015A	1930-6E	Joint Comp.	White Paint-Like; White Powdery; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-015B	1930-6E	Skim Coat	White Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-016A	1930-7A	Joint Comp.	White Paint-Like; White Powdery; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-016B	1930-7A	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	35% Cellulose 5% Fibrous Glass 60% Non-Fibrous
19-08-02034-017A	1930-7B	Joint Comp.	White Paint-Like; White Powdery; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-017B	1930-7B	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	35% Cellulose 5% Fibrous Glass 60% Non-Fibrous
19-08-02034-018A	1930-7C	Joint Comp.	White Paint-Like; White Powdery; Inhomogeneous	NAD	100% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-018B	1930-7C	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	35% Cellulose 5% Fibrous Glass 60% Non-Fibrous
19-08-02034-019	1930-8A		Off-White Adhesive-Like; Homogeneous	NAD	10% Cellulose 90% Non-Fibrous
19-08-02034-020	1930-9A		White Paint-Like; Gray Fibrous; Inhomogeneous	NAD	50% Cellulose 40% Fibrous Glass 10% Non-Fibrous
19-08-02034-021	1930-9B		White Paint-Like; Gray Fibrous; Inhomogeneous	NAD	50% Cellulose 40% Fibrous Glass 10% Non-Fibrous
19-08-02034-022	1930-10A		White Paint-Like; Gray Fibrous; Inhomogeneous	NAD	50% Cellulose 40% Fibrous Glass 10% Non-Fibrous
19-08-02034-023	1930-10B		White Paint-Like; Gray Fibrous; Inhomogeneous	NAD	50% Cellulose 40% Fibrous Glass 10% Non-Fibrous
19-08-02034-024	1930-11A		White Paint-Like; Gray Fibrous; Inhomogeneous	NAD	60% Cellulose 35% Fibrous Glass 5% Non-Fibrous

Environmental Hazards Services, L.L.C

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Report Number: 19-08-02034

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-025	1930-11B		White Paint-Like; Gray Fibrous; Inhomogeneous	NAD	60% Cellulose 35% Fibrous Glass 5% Non-Fibrous
19-08-02034-026A	1930-12A	Cove Base	Purple Rubbery; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-026B	1930-12A	Mastic	Yellow/Black Adhesive; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-027A	1930-12B	Cove Base	Purple Rubbery; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-027B	1930-12B	Mastic	White Adhesive; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-028A	1930-13A	Skim Coat	Beige Paint-Like; White Brittle; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-028B	1930-13A	Base Coat	Gray Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-029A	1930-13B	Skim Coat	White Paint-Like; White Brittle; Inhomogeneous	NAD	100% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-029B	1930-13B	Base Coat	Gray Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-030A	1930-13C	Skim Coat	White Brittle; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-030B	1930-13C	Base Coat	Gray Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-031A	1930-13D	Skim Coat	White Brittle; Gray	NAD	100% Non-Fibrous
19-08-02034-031B	1930-13D	Base Coat	Gray Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-032A	1930-13E	Skim Coat	White Brittle; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-032B	1930-13E	Base Coat	Gray Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-033	1930-14A		Brown Fibrous; Gray Chalky; Homogeneous	NAD	10% Cellulose 2% Fibrous Glass 88% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-034A	1930-14B	Joint Comp.	White Powdery; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-034B	1930-14B	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
19-08-02034-035	1930-14C		Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
19-08-02034-036A	1930-15A	Texture	White Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-036B	1930-15A	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
19-08-02034-037A	1930-14D	Joint Comp.	White Powdery; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-037B	1930-14D	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
19-08-02034-038A	1930-15B	Texture	White Granular; Homogeneous	NAD	100% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-038B	1930-15B	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
19-08-02034-039	1930-15C		White/Yellow/Green Paint-Like; Gray Cementitious; Inhomogeneous	Trace <1% Chrysotile Total Asbestos: Trace <1%	2% Hair 98% Non-Fibrous
<1% Chrysotile present in base coat.					
19-08-02034-040A	1930-16A	Joint Comp.	White Powdery; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-040B	1930-16A	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
19-08-02034-041A	1930-16B	Joint Comp.	White Powdery; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-041B	1930-16B	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
19-08-02034-042A	1930-16C	Joint Comp.	White Powdery; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-042B	1930-16C	Drywall	Brown Fibrous; Gray Chalky; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-043	1930-17A		Off-White Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-044	1930-17B		Off-White Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-045	1930-18A		Maroon Pliable to Brittle; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
19-08-02034-046	1930-18B		Beige to Brown Pliable to Brittle; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-047	1930-19A		Brown Adhesive; Homogeneous	NAD	1% Cellulose 7% Wollastonite 92% Non-Fibrous
19-08-02034-048	1930-20A		Black Vinyl-Like; Homogeneous	NAD	30% Synthetic 70% Non-Fibrous
19-08-02034-049	1930-21A		Tan Fibrous; White Brittle; Inhomogeneous	NAD	85% Cellulose 15% Non-Fibrous
19-08-02034-050	1930-21B		Tan Fibrous; White Brittle; Inhomogeneous	NAD	92% Cellulose 8% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-051	1930-22A		Yellow Foam-Like; Silver Metallic; Transluscent Adhesive; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-052A	1930-23A	Cove Base	Dark Blue Vinyl-Like; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-052B	1930-23A	Mastic	Off-White Adhesive; Homogeneous	NAD	1% Cellulose 1% Synthetic 98% Non-Fibrous
19-08-02034-052C	1930-23A	Other *	Off-White Brittle; Homogeneous	Trace <1% Chrysotile	2% Cellulose 98% Non-Fibrous
Total Asbestos: Trace <1%					
* Drywall System Joint Compound-Type Substrate Material					
19-08-02034-053A	1930-24A	Other *	Yellow Adhesive; Homogeneous	NAD	3% Cellulose 2% Synthetic 95% Non-Fibrous
* Yellow Mastic					
19-08-02034-053B	1930-24A	Other *	Blue-Green Adhesive; Homogeneous	NAD	2% Cellulose 2% Synthetic 96% Non-Fibrous
* Blue-Green Mastic					
19-08-02034-054A	1930-24B	Other *	Yellow Adhesive; Homogeneous	NAD	3% Cellulose 4% Synthetic 93% Non-Fibrous
* Yellow Mastic					

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-054B	1930-24B	Other *	Blue-Green Adhesive; Homogeneous	NAD	2% Cellulose 2% Synthetic 96% Non-Fibrous

* Blue-Green Mastic

19-08-02034-055	1930-25A	Maroon Pliable; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
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19-08-02034-056	1930-25B	Maroon Pliable; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
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19-08-02034-057	1930-27A	Yellow to Tan Pliable; Homogeneous	NAD	3% Cellulose 5% Synthetic 92% Non-Fibrous
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19-08-02034-058	1930-27B	Yellow to Tan Pliable; Homogeneous	NAD	4% Cellulose 1% Fibrous Glass 5% Synthetic 90% Non-Fibrous
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19-08-02034-059A	1930-28A	Flooring	Red Granular; Homogeneous	NAD	100% Non-Fibrous
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* Upper Layer Mastic Beneath Flooring

19-08-02034-059B	1930-28A	Other *	Amber Adhesive; Homogeneous	NAD	3% Cellulose 1% Fibrous Glass 96% Non-Fibrous
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* Lower Layer Mastic Beneath Flooring

Environmental Hazards Services, L.L.C

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Report Number: 19-08-02034

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-059C	1930-28A	Other *	Black Adhesive; Homogeneous	NAD	15% Cellulose 85% Non-Fibrous
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* Upper Layer Mastic Beneath Flooring					
19-08-02034-060A	1930-28B	Flooring	Red Granular; Homogeneous	NAD	100% Non-Fibrous
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19-08-02034-060B	1930-28B	Mastic	Yellow Adhesive; Homogeneous	NAD	4% Cellulose 1% Synthetic 95% Non-Fibrous
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19-08-02034-061A	1930-29A	Flooring	White/Multi-Colored Granular; Homogeneous	NAD	100% Non-Fibrous
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19-08-02034-061B	1930-29A	Mastic	Yellow to Amber Adhesive; NAD Homogeneous	NAD	4% Cellulose 1% Fibrous Glass 4% Synthetic 1% Hair 90% Non-Fibrous
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19-08-02034-062A	1930-29B	Flooring	White/Multi-Colored Granular; Homogeneous	NAD	100% Non-Fibrous
<hr/>					
19-08-02034-062B	1930-29B	Mastic	Yellow to Amber Adhesive; NAD Homogeneous	NAD	3% Cellulose 3% Synthetic 1% Hair 93% Non-Fibrous
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Environmental Hazards Services, L.L.C

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Report Number: 19-08-02034

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-063A	1930-30A	Other *	Black Vinyl-Like; Homogeneous	NAD	100% Non-Fibrous

* Vinyl-Like Surfacing Material

19-08-02034-063B	1930-30A	Mastic	Transluscent to Pale Tan Adhesive; Homogeneous	NAD	5% Cellulose 1% Synthetic 94% Non-Fibrous
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19-08-02034-064A	1930-30B	Other *	Black Vinyl-Like; Homogeneous	NAD	100% Non-Fibrous
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* Vinyl-Like Surfacing Material

19-08-02034-064B	1930-30B	Mastic	Transluscent to Pale Tan Adhesive; Homogeneous	NAD	5% Cellulose 1% Fibrous Glass 1% Synthetic 93% Non-Fibrous
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19-08-02034-065A	1930-31A	Other *	Beige Vinyl-Like; Homogeneous	NAD	100% Non-Fibrous
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* Vinyl-Like Surfacing Material

19-08-02034-065B	1930-31A	Mastic	Pale Yellow Adhesive; Homogeneous	NAD	3% Cellulose 2% Synthetic 95% Non-Fibrous
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19-08-02034-065C	1930-31A	Other *	White Brittle; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
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* Drywall System Joint Compound-Type Substrate Material

Environmental Hazards Services, L.L.C

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Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-066A	1930-32A	Covering/Jacket	White Pliable to Brittle; Pale Beige/Off-White Fibrous; Silver Metallic; Off-White Adhesive; Inhomogeneous	NAD	35% Cellulose 20% Fibrous Glass 45% Non-Fibrous
19-08-02034-066B	1930-32A	Insulation	Yellow Adhesive; Homogeneous	NAD	95% Fibrous Glass 5% Non-Fibrous
19-08-02034-067A	1930-32B	Covering/Jacket	White Pliable to Brittle; Pale Beige/Off-White Fibrous; Silver Metallic; Off-White Adhesive; Inhomogeneous	NAD	35% Cellulose 20% Fibrous Glass 45% Non-Fibrous
19-08-02034-067B	1930-32B	Insulation	Yellow Adhesive; Homogeneous	NAD	95% Fibrous Glass 5% Non-Fibrous
19-08-02034-068A	1930-33A	Covering/Jacket	White Pliable to Brittle; Pale Beige/Off-White Fibrous; Silver Metallic; Off-White Adhesive; Inhomogeneous	NAD	35% Cellulose 20% Fibrous Glass 45% Non-Fibrous
19-08-02034-068B	1930-33A	Insulation	Yellow Fibrous; Homogeneous	NAD	1% Cellulose 94% Fibrous Glass 5% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-069A	1930-33B	Covering/Jacket	Pale Beige Brittle; Pale Beige/Off-White Fibrous; Silver Metallic; Off-White Adhesive; Inhomogeneous	NAD	40% Cellulose 20% Fibrous Glass 40% Non-Fibrous
19-08-02034-069B	1930-33B	Insulation	Yellow Fibrous; Homogeneous	NAD	95% Fibrous Glass 5% Non-Fibrous
19-08-02034-070	1930-34A		Pale Gray Cementitious; White Brittle; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-071	1930-34B		Pale Gray Cementitious; White Brittle; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02034-072	1930-35A		Black to Brown Fibrous; Homogeneous	NAD	60% Cellulose 40% Non-Fibrous
19-08-02034-073	1930-36A		Tan/Yellow Fibrous; Black Pliable; Inhomogeneous	NAD	45% Cellulose 20% Fibrous Glass 35% Non-Fibrous
19-08-02034-074	1930-37A		Beige/Pale Silver/Tan Fibrous; Off-White/Black Vinyl-Like; Copper Metallic; Inhomogeneous	NAD	15% Cellulose 20% Fibrous Glass 65% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02034-075	30-26A		Tan Fibrous; White Brittle; Inhomogeneous	NAD	80% Cellulose 20% Non-Fibrous
19-08-02034-076A	1930-23B	Cove Base	Blue Vinyl-Like; Homogeneous	NAD	100% Non-Fibrous
19-08-02034-076B	1930-23B	Mastic	Pale Yellow Adhesive; Homogeneous	NAD	3% Cellulose 97% Non-Fibrous

QC Sample: 33-M22010-3, 32-M22010-2, 35-M22014-4

QC Blank: SRM 1866 Fiberglass

Reporting Limit: 1% Asbestos

Method: EPA Method 600/R-93/116, EPA Method 600/M4-82-020

Analyst: Keleigh King, Angel McDaniel,
Mark Case

Reviewed By Authorized Signatory:



Tasha Eaddy
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Each distinct component in an inhomogeneous sample was analyzed separately and reported as a composite. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714 NVLAP #101882-0 VELAP 460172. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

400 Point Count Analysis, where noted, performed per EPA Method 600/R-93/116 with a Reporting Limit of 0.25%.

* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND: NAD = no asbestos detected



Asbestos Chain-of-Custody

19-08-02034



Due Date:
08/16/2019
(Friday)
ER MC

Environmental Hazards Services, LLC

www.leadlab.com 7469 Whitepine Rd
(800)347-4010 Richmond, VA
(804)275-4907 (fax) 23237

Company Name: Froehling & Robertson, Inc. Address: 1734 Seibel Drive NE City/State/Zip: Roanoke, Virginia 24015

Phone: 540, 344-7939 Fax: 540, 344-3657 E-mail: jphillips@fandr.com Acct. Number:

Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia

Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS				AIR				Comments			
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NV Protocol	PCM	TEM Claffield (Bulk)	TEMAHERA (Air)	Time On	Time Off	Flow Rate (L / min)	Total Time (minutes)	Volume (Total Liters)
1	1930-1A	8-8-19	X											
2	1930-1B		X											
3	1930-2A		X											
4	1930-2B		X											
5	1930-3A		X											
6	1930-3B		X											
7	1930-4A		X											
8	1930-4B		X											
9	1930-5A		X											
10	1930-5B		X											

Released by: Jesse D. Phillips Signature: Date/Time:

Received by: T. M. Haun Signature: Date/Time: 8/13/19 4:15



Asbestos Chain-of-Custody

~ For Lab Use Only ~

Environmental Hazards Services, LLC

www.leadlab.com 7469 Whitepine Rd
(800)347-4010 Richmond, VA
(804)275-4907 (fax) 23237

Company Name: Froehling & Robertson, Inc. Address: 1734 Seibel Drive NE City/State/Zip: Roanoke, Virginia 24015
Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____
Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia
Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day

2 - Day



3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS				AIR				COMMENTS			
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NV Protocol	PCM	TEM Chaffield (Bulk)	TEM/AHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	1430-6A	8-8-19	X											
2	1430-6B		X											
3	1430-6C		X											
4	1430-6D		X											
5	1430-6E		X											
6	1430-7A		X											
7	1430-7B		X											
8	1430-7C		X											
9	1430-8A		X											
10	1430-9A	↓	X											

Released by: Jesse D. Phillips Signature: _____ Date/Time: _____

Received by: Twh Signature: _____ Date/Time: 8/13/19 7:15



Asbestos Chain-of-Custody

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Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____
Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia
Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times: *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS				AIR				COMMENTS			
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM Not Processed	PCM	TEM Chaffield (Bulk)	TEM AHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	1930 - 9B		X											
2	1930 - 10A		X											
3	1930 - 10B		X											
4	1930 - 11A		X											
5	1930 - 11B		X											
6	1930 - 12A		X											
7	1930 - 12B		X											
8	1930 - 13A		X											
9	1930 - 13B		X											
10	1930 - 13C		X											

Released by: Jesse D. Phillips Signature: Date/Time: *J. D. Phillips* 8/13/14 4:30

Received by: *T. M. H.* Signature: Date/Time: *T. M. H.* 8/13/14 4:30



Asbestos Chain-of-Custody

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Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____
Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia
Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS	
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NY Protocol	PCM	TEM/Chaffield (Bulk)	TEM/AHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	
1	1930-13D		X											
2	1930-13E		X											
3	1930-14A		X											
4	1930-14B		X											
5	1930-14C		X											
6	1930-15A		X											
7	1930-14D		X											
8	1930-15B		X											
9	1930-15C		X											
10	1930-16A		X											

Released by: Jesse D. Phillips Signature: Date/Time: _____
Received by: T. W. Signature: Date/Time: 8/12/19 4:15



Asbestos Chain-of-Custody

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Environmental Hazards Services, LLC

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(804)275-4907 (fax) 23237

Company Name: Froehling & Robertson, Inc. Address: 1734 Seibel Drive NE City/State/Zip: Roanoke, Virginia 24015
Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____
Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia
Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS				AIR				COMMENTS			
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NV Protocol	PCM	TEM/Craftfield (Bulk)	TEM/MAHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	1930 - 16B		X											
2	1930 - 16C		X											
3	1930 - 17A		X											
4	1930 - 17B		X											
5	1930 - 18A		X											
6	1930 - 18B		X											
7	1930 - 19A		X											
8	1930 - 20A		X											
9	1930 - 21A		X											
10	1930 - 21B		X											

Released by: Jesse D. Phillips Signature: Date/Time: _____

Received by: *T. Shahan* Signature: Date/Time: *8/13/19 4:15*



Asbestos Chain-of-Custody

Environmental Hazards Services, LLC

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Company Name: Froehling & Robertson, Inc. Address: 1734 Seibel Drive NE City/State/Zip: Roanoke, Virginia 24015
Phone: 540 344-7939 Fax: 540 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____
Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia
Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day

2 - Day



3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS				AIR				COMMENTS			
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NY Protect	PCM	TEM Chaffield (Bulk)	TEM AHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	1930-224	8-8-14	X											
2	1930-239		X											
3	1930-244		X											
4	1930-243		X											
5	1930-254		X											
6	1930-253		X											
7	1930-274		X											
8	1930-273		X											
9	1930-284		X											
10	1930-283		X											
Released by: Jesse D. Phillips			Signature:				Date/Time:							
Received by: <u>J.D.P.</u>			Signature:				Date/Time:				<u>8/13/14 4:16</u>			



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Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____
Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia
Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS				AIR				COMMENTS			
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NV Protocol	PCM	TEM Chaffield (Bulk)	TEM MAHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	1930 - 29A	8-8-14	X											
2	1930 - 29B		X											
3	1930 - 30A		X											
4	1930 - 30B		X											
5	1930 - 31A		X											
6	1930 - 32A		X											
7	1930 - 32B		X											
8	1930 - 33A		X											
9	1930 - 33B		X											
10	1930 - 34A	↓	X											

Released by: Jesse D. Phillips Signature: Date/Time: _____
Received by: T. Johnson Signature: Date/Time: 8/13/14 4:50



Laboratories[™]

Environmental Hazards Services, LLC

www.leadlab.com **7469 Whitepine Rd**
(800)347-4010 **Richmond, VA**
(804)275-4907 (fax) **23237**

Asbestos Chain-of-Custody

~ For Lab Use Only ~

Company Name: Froehling & Robertson, Inc. Address: 1734 Seibel Drive NE City/State/Zip: Roanoke, Virginia 24015

Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number:

Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia

Project Name / Testing Address: _____ City/State (Required): _____
Call # 11 Jesse D. Phillips Purchase Order Number: 62X-0328

Collected by: **Jesse D. Phillips** Purchase Order Number: **62X-U328**

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)



TABLE NO. 1
ASBESTOS BULK SAMPLING RECORD

F&R Project No.: 624-0328
Inspector: Jesse Phillips
Inspection Date: 8.8.19
Client: Roanoke County
Location: Bear Mtn. Community Center - 1930 Hwy

Key
M: Miscellaneous Material
S: Surfacing Material
TSI: Thermal Systems Insulation
NAD: No Asbestos Detected

SF: Square Feet
LF: Linear Feet
EA: Each

Sample#	Material Type	Sample Location (Room, Side, Modifiers)	Quantity ²	Friable	ACM Type
1930-1A	Brick/Mortar	S E Exterior corner			
1930-1B	Brick/Mortar	S E Exterior corner			
1930-2A	Concrete	Foundation - E 72" with Southern most possible vent			
1930-2B	Concrete	South face - 22" x 10" min entry			
1930-3A	Corlik-Door	White Plinths - South side Double doors exterior			
1930-3B	Corlik-Door	Granular - South Door - E 2" end, former exterior side			
1930-4A	Glassing Cpd.	Classroom 2 - Ext. window - West side			
1930-4B	Glassing Cpd.	Classroom 3 - Ext. window - South side			
1930-5A	Corlik-Windows	North side - West window Exterior			
1930-5B	Corlik-Windows	South side - West window			
1930-6A	Clog Plaster	3 layers - Plaster - wall - floor (P2-2nd)			
1930-6B	Clog Plaster	3 layers - Plaster - Class 5 floor - (O1-2nd)			
1930-6C	Clog Plaster	3 layers - Plaster - Principals Office			
1930-6D	Clog Plaster	3 layers - Plaster - General Office Custodial Room 9			
1930-6E	Clog Plaster	3 layers - Plaster - Classroom 1			
1930-7A	Clog G/B/Jc	St. Cpl. G/B/Jc - Hallway @ chimney outside class 1			
1930-7B	Clog G/B/Jc	St. Cpl. G/B/Jc - Hall @ general office			
1930-7C	Clog G/B/Jc	St. Cpl. G/B/Jc - Hall @ class 5			
1930-8A	White Smt. Backing	Office 8 - sink			

-(G) Good (No damage); (D) Damaged (<10% distributed or <25% localized); (SD) Significantly Damaged (>10% distributed or >25% localized)²
All volumes and areas of ACMs cited in this report are estimates based on visible and inferred site conditions; actual quantities may vary.

TABLE NO. 1
 ASBESTOS BULK SAMPLING RECORD

F&R Project No.: 624-0328
 Inspector: Jesse Phillips
 Inspection Date: 8.8.19
 Client: Ro. Co.
 Location: But. Mt. - (93) 3400

Key
 M: Miscellaneous Material
 S: Surfacing Material
 TSI: Thermal Systems Insulation
 NAD: No Asbestos Detected

SF: Square Feet
 LF: Linear Feet
 EA: Each

Sample#	Material Type	Sample Location (Room, Side, Modifiers)	Quantity ²	Friable	ACM Type
1930-9A	Clay Panel A	General office - Drop-in dry patch w/ random fissures			
1930-9B	Clay Panel A	Room 7 - " " " " "			
1930-10A	Clay Panel B	Foyer - SE corner - Drop-in dry patch / random - spars			
1930-10B	Clay Panel B	Room 4 - center - " " " " "			
1930-11A	Clay Panel C	Foyer - East side - pinholes large & small			
1930-11B	Clay Panel C	Foyer - North corner - " " " " "			
1930-12A	6" Mason Core Box	on floor in workshop - office suite			
1930-12B	6" Mason Core Box	Hall way @ door to Class 4			
1930-13A	SDT Dry Denising wall	2 west (?) plaster - Hall 2g room Room 9 @ column			
1930-13B		- Hall 2g room Room 2			
1930-13C		- Door between Hall & general office			
1930-13D		- Classroom 4 - denising wall w/ hole @ door			
1930-13E		- Classroom 3 - denising wall w/ hole @ door			
1930-14A	Hollow denising wall	Room 8 - e door to hall - gypsum board			
1930-14B		Hall @ workshop - exterior (metal center)			
1930-14C		Hall Class 4 opposite door on perimeter wall interior			
1930-15A	Plaster Denising wall	Hollow - Hall exterior office suite			
1930-15D	Hollow	Class 2 - Perimeter wall interior - east side / south end			
1930-15B	Plaster Denising wall	Hall exterior Classroom 3 - hollow wall			

-(G) Good (No damage); (D) Damaged (<10% distributed or <25% localized); (SD) Significantly Damaged (>10% distributed or >25% localized)²
 All volumes and areas of ACMs cited in this report are estimates based on visible and inferred site conditions; actual quantities may vary.

PAGE: 2 OF 5

press ->
 - sp. - sp.) 1. @ south wall
 - sp. - sp.) yes. on chalk board
 - sp. - sp.) or glazing inside
 - sp. - sp.) or fire doors



TABLE NO. 1
ASBESTOS BULK SAMPLING RECORD

F&R Project No.: 62X-0328
Inspector: Jesse Phillips
Inspection Date: 8-8-19
Client: Roanoke County
Location: Bent Mountain Center 1930s Bldg

Key

M: Miscellaneous Material
S: Surfacing Material
TSI: Thermal Systems Insulation
NAD: No Asbestos Detected

SF: Square Feet
LF: Linear Feet
EA: Each

Sample#	Material Type	Sample Location (Room, Side, Modifiers)	Quantity ²	Friable	ACM Type
1930-15C	Plaster Wall	Hollow wall - Cls, 3 29.25 ft. drywall w/ taping class 4			
1930-16A	Gyp (D) S+Cpl	Room 8 - SW corner			
1930-16B		M: D: Room East wall @ corner of computer room			
1930-16C		Computer - Room (6) south wall w/ work room			
1930-17A	Pl-Drywall S+Cpl	Room 8 - Above Drop Clay			
1930-17B	"	Above Clay of Room 6			
1930-18A	Red Drywall S+Cpl	Room 8 - Above Drop Clay			
1930-18B	"	Above Clay of Room 6			
1930-19A	Bulk Drywall Mater	Wall of Room 6 - South side - Brown wall glue			
1930-20A	HVAC Ducts per	Above clay of Room 6 - Ductile Damp - cloth @ AHU			
1930-21A	Clg Panel	Original fiberboard - Clg -			
1930-21B	Clg Panel	Original fiberboard - Clg -			
1930-22A	Insulation	Foam, foil backed perimeter wall insulation			
1930-23A	4" Drywall Edge Board	Room 6 - East floor / 1/2"			
1930-23B	"	Room 6 - West floor / 1/2"			
1930-24A	Carpet Mastic	Mod: Center - SE corner - and - carpet			
1930-24B	Carpet Mastic	" " NW corner "			
1930-25A	Stair Tread	Marrow - @ Front stairs in foyer			
1930-25B	Stair Tread	" " " " " "			

(G) Good (No damage); (D) Damaged (<10% distributed or <25% localized); (SD) Significantly Damaged (>10% distributed or >25% localized)²
All volumes and areas of ACMs cited in this report are estimates based on visible and inferred site conditions; actual quantities may vary.



TABLE NO. 1
ASBESTOS BULK SAMPLING RECORD

F&R Project No.:

62X-0328

Inspector:

Jesse Phillips

Inspection Date:

8-8-19

Client:

Port-Orford County

Location:

Port Mtn.

Key

M: Miscellaneous Material

SF: Square Feet

S: Surfacing Material

LF: Linear Feet

TSI: Thermal Systems Insulation

EA: Each

NAD: No Asbestos Detected

Sample#	Material Type	Sample Location (Room, Side, Modifiers)	Quantity ²	Friable	ACM Type
1930-26A		Foyer - 8' x 12' Area 2			
1930-27A	Trans. Material - T2	Foyer - 8' x 12' Area 2			
1930-27B					
1930-28A	Red T. I. / Bl. T. I. by closet				
1930-28A	" "	C12, 4 - North end by closets	- 12 x 12 - (Red Material) 8' x 8'	(T2, Material?)	
1930-29A	White T. I. by closet	Foyer - 8' x 12' Area 2			
1930-29B	" "	C12, 4 - North end by closets		(White 1' x 1')	(T2, Material?)
1930-30A	Block Transition @ Title - Center of Room 4				
1930-30B	Block Transition - @ Title - Door to Hall @ Room 4				
1930-31A	C12 - 4" Cove Base	Med. 12' Center			
1930-32A	1/2" TSI - Run	Fiberglass w/ felt backed paper grouted w/ white sealant - Room 4			
1930-32B				- Room 4	
1930-33A	3" TSI - Run				Room 4
1930-33B					Room 4
1930-34A	Plaster - Clg	3' Biomass - Clg			
1930-34B	Plaster - Clg	3' - Clg			
1930-35A	T- Pipe	C12 - 8' x 12'			
1930-36A	Board Insulation	C12 - 8' x 12'			

-(G) Good (No damage); (D) Damaged (<10% distributed or <25% localized); (SD) Significantly Damaged (>10% distributed or >25% localized)²-
All volumes and areas of ACMs cited in this report are estimates based on visible and inferred site conditions; actual quantities may vary.



TABLE NO. 1
ASBESTOS BULK SAMPLING RECORD

F&R Project No.:
Inspector:
Inspection Date:
Client:
Location:

Jesse Phillips
8-8-19
R. C.
Bart M., 1930s B.W.Y.

Key
M: Miscellaneous Material
S: Surfacing Material
TSI: Thermal Systems Insulation
NAD: No Asbestos Detected

SF: Square Feet
LF: Linear Feet
EA: Each

– (G) Good (No damage); (D) Damaged (<10% distributed or <25% localized); (SD) Significantly Damaged (>10% distributed or >25% localized)²–
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PAGE: 5 OF 5

Appendix D

1990s Building

Laboratory Certificates of Analysis
Bulk Sample Chain of Custody Forms



Environmental Hazards Services, L.L.C.

7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Asbestos Bulk Analysis Report

Report Number: 19-08-02033

Client: Froehling & Robertson Inc. - Roanoke
1734 Seibel Drive, N.E.
Roanoke, VA 24012

Received Date: 08/13/2019
Analyzed Date: 08/15/2019
Reported Date: 08/16/2019

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Client Number:
48-4628

Fax Number:
540-344-3657

Laboratory Results

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-001A	1990-1A	Drywall	Gray Powder; Brown Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
19-08-02033-001B	1990-1A	Joint Comp.	White Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-002	1990-1B		Gray Powder; Brown Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
No joint compound present.					
19-08-02033-003	1990-1C		White Granular; Homogeneous	NAD	100% Non-Fibrous
No drywall present.					
19-08-02033-004	1990-2A		Brown Fibrous; White Paint; Inhomogeneous	NAD	65% Cellulose 5% Fibrous Glass 30% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-005	1990-2B		Brown Fibrous; White Paint; Inhomogeneous	NAD	65% Cellulose 5% Fibrous Glass 30% Non-Fibrous
19-08-02033-006A	1990-3A	Tile	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-006B	1990-3A	Mastic	Black Tar; Homogeneous	NAD	11% Cellulose 89% Non-Fibrous
19-08-02033-007A	1990-3B	Tile	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-007B	1990-3B	Mastic	Yellow Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
19-08-02033-008A	1990-4A	Cove Base	Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-008B	1990-4A	Mastic	Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
19-08-02033-009	1990-5A		Yellow Adhesive; Homogeneous	NAD	3% Cellulose 97% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-010	1990-5B		Yellow Adhesive; Homogeneous	NAD	3% Cellulose 97% Non-Fibrous
19-08-02033-011	1990-6A		White Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-012	1990-6B		White Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-013	1990-7A		Gray Powder; Brown Fibrous; Gray Paint; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
19-08-02033-014	1990-8A		White Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-015	1990-8B		White Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-016A	1990-9A	Brick	Red Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-016B	1990-9A	Mortar	Brown Granular; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-017A	1990-9B	Brick	Red Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-017B	1990-9B	Mortar	Brown Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-018A	1990-10A	Block	Gray Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-018B	1990-10A	Mortar	Brown Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-019A	1990-10B	Block	Gray Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-019B	1990-10B	Mortar	Brown Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-020	1990-11A		Black Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-021	1990-11B		Black Pliable; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-022	1990-12A		Brown Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-023A	1990-13A	Stair Tread	Green Vinyl; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-023B	1990-13A	Mastic	Tan Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
19-08-02033-024A	1990-13B	Stair Tread	Green Vinyl; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-024B	1990-13B	Mastic	Tan/Black Adhesive; Inhomogeneous	NAD	12% Cellulose 88% Non-Fibrous
19-08-02033-025A	1990-14A	Insulation	Yellow Fibrous; Homogeneous	NAD	98% Fibrous Glass 2% Non-Fibrous
19-08-02033-025B	1990-14A	Covering/ Jacket	White Pliable; Silver Foil; Inhomogeneous	NAD	7% Cellulose 1% Fibrous Glass 92% Non-Fibrous
19-08-02033-026	1990-15A		Tan Pliable; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-027A	1990-16A	Cove Base	Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-027B	1990-16A	Mastic	Brown/Tan Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
19-08-02033-028A	1990-16B	Cove Base	Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-028B	1990-16B	Mastic	Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-029	1990-17A		Black Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-030	1990-17B		Black Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-031A	1990-18A	Insulation	Yellow Fibrous; Homogeneous	NAD	98% Fibrous Glass 2% Non-Fibrous
19-08-02033-031B	1990-18A	Covering/Jacket	Tan Fibrous; Silver Foil; Inhomogeneous	NAD	65% Cellulose 8% Fibrous Glass 27% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-032A	1990-18B	Insulation	Yellow Fibrous; Homogeneous	NAD	98% Fibrous Glass 2% Non-Fibrous
19-08-02033-032B	1990-18B	Covering/Jacket	Tan Fibrous; Silver Foil; Inhomogeneous	NAD	65% Cellulose 8% Fibrous Glass 27% Non-Fibrous
19-08-02033-033A	1990-19A	Foam	Gray Foam; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-033B	1990-19A	Caulk	Tan Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-034A	1990-19B	Foam	Gray Foam; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-034B	1990-19B	Caulk	Tan Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-035	1990-20A		Gray Cementitious; Tan Paint; Inhomogeneous	NAD	100% Non-Fibrous
19-08-02033-036	1990-20B		Gray Cementitious; Tan Paint; Inhomogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-037	1990-21A		Gray Powder; Brown Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
19-08-02033-038	1990-22A		Tan Granular; Brown Fibrous; Inhomogeneous	NAD	85% Cellulose 15% Non-Fibrous
19-08-02033-039	1990-22B		Tan Granular; Brown Fibrous; Inhomogeneous	NAD	95% Cellulose 5% Non-Fibrous
19-08-02033-040A	1990-23A	Ceramic Tile	Blue Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-040B	1990-23A	Grout	Gray Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-041A	1990-24A	Ceramic Tile	Brown Cementitious; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-041B	1990-24A	Grout	Brown Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-041C	1990-24A	Mastic	White Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-042	1990-25A		White Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-043	1990-26A		Black Pliable; Homogeneous	2% Chrysotile	2% Cellulose 96% Non-Fibrous
				Total Asbestos: 2%	
19-08-02033-044	1990-27A		Black Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-045A	1990-28A	Caulk I	Black Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-045B	1990-28A	Caulk II	Clear Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-046A	1990-29A	Flooring	Brown Fibrous; Homogeneous	NAD	90% Cellulose 10% Non-Fibrous
19-08-02033-046B	1990-29A	Mastic	Tan Adhesive; Homogeneous	NAD	3% Cellulose 97% Non-Fibrous
19-08-02033-047	1990-30A		Tan Pliable; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community
Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
19-08-02033-048	1990-31A		Tan Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-049	1990-32A		Yellow/Tan Granular; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-050	1990-33A		Silver Pliable; Homogeneous	NAD	100% Non-Fibrous
19-08-02033-051	1990-34A		White Pliable; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 48-4628

Report Number: 19-08-02033

Project/Test Address: 62X-0328; Bent Mountain Community Center; Roanoke, Virginia

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
QC Sample:	34-M22014-3				
QC Blank:	SRM 1866 Fiberglass				
Reporting Limit:	1% Asbestos				
Method:	EPA Method 600/R-93/116, EPA Method 600/M4-82-020				
Analyst:	Christian H. Schaible				

Reviewed By Authorized Signatory:



Tasha Eaddy
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Each distinct component in an inhomogeneous sample was analyzed separately and reported as a composite. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714 NVLAP #101882-0 VELAP 460172. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

400 Point Count Analysis, where noted, performed per EPA Method 600/R-93/116 with a Reporting Limit of 0.25%.

* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND: NAD = no asbestos detected



Environmental Hazards Services, LLC

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 (804)275-4907 (fax) 23237

Asbestos Chain-of-Custody

19-08-02033



Due Date:
 08/16/2019
 (Friday)
 ER MC

WES
49pm

Company Name: Froehling & Robertson, Inc. Address: 1734 Seibel Drive NE City/State/Zip: Roanoke, Virginia 24015
 Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____
 Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia
 Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS				AIR				COMMENTS			
			PLM	PLMP/Point Count 400	PLM/Point Count 1000	PLM NY Protocol	PCM	TEM Craftfield (Bulk)	TEMAHERA (air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	1990-1A	8-8-14	X											
2	1990-1B		X											
3	1990-1C		X											
4	1990-2A		X											
5	1990-2B		X											
6	1990-3A		X											
7	1990-3B		X											
8	1990-4A		X											
9	1990-5A		X											
10	1990-5B		X											

Released by: Jesse D. Phillips

Signature:

Date/Time:

Received by: *T. W. Hogan*

Signature:

Date/Time: *8/13/19 4pm*



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No.	Client Sample ID	Date Collected	ASBESTOS						AIR					COMMENTS
			PLM	PLM/Point Count 400	PLM/Point Count 1000	PLM NV Protocol	PCM	TEM/Chaffield (Bulk)	TEMAHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	
1	1990 - 0A	8-8-019	x											
2	1990 - 6B		x											
3	1990 - 7A		f											
4	1990 - 8A		x											
5	1990 - 8B		x											
6	1990 - 9A		x											
7	1990 - 9B		x											
8	1990 - 10A		x											
9	1990 - 10B		x											
10	1990 - 11A	↓	x											

Released by: Jesse D. Phillips

Signature:

Date/Time:

Received by:

T. h. han

Signature:

Date/Time: 8/13/94



Asbestos

Chain-of-Custody

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1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS				AIR				COMMENTS			
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NV Protocol	PCM	TEM/Chaffield (Bulk)	TEM/AHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	1990- 12A	8-8-94	X											Sample received
2	1990- 13A		X											# 1990-11B net
3	1990- 13B		X											recorded on coc but
4	1990- 14A		X											recorded on field data
5	1990- 15A		X											WORKSHEET EB 8/14/94
6	1990- 16A		X											
7	1990- 16B		X											
8	1990- 17A	8-12-94	X											
9	1990- 17B	8-12-94	X											
10	1990- 16A	8-12-94	X											

Released by: Jesse D. Phillips

Received by: T. W.

Signature:

Signature:

Date/Time:

Date/Time: 8/13/94



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 Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____
 Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia
 Collected by: Jesse D. Phillips Purchase Order Number: 62X-0328

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS					AIR					COMMENTS	
			PLM	ELM Point Count 400	ELM Point Count 1000	PLM NV Protocol	PCM	TEM/Classfield (Bulk)	TEM/HERA (Air)	Time On	Time Off	Flow Rate (L./ min)	Total Time (minutes)	
1	1990-18B	8-12-97	X											
2	1990-19A		X											
3	1990-19B		X											* sample received
4	1990-20A		X											1990-22A not recorded
5	1990-20B		X											on COC but recorded in
6	1990-21A		X											field data worksheet
7	1990-22B		X											EB 314419
8	1990-23A		X											
9	1990-24A		X											
10	1990-25A		X											

Released by:

Signature:

Date/Time:

Received by:

Tul

Signature:

Date/Time: *8/13/99*



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Phone: (540) 344-7939 Fax: (540) 344-3657 E-mail: jphillips@fandr.com Acct. Number: _____

Project Name / Testing Address: Bent Mountain Community Center City/State (Required): Roanoke, Virginia

Collected by: **Jesse D. Phillips** Purchase Order Number: **62X-0328**

16. TAT is a single day annual (a) will be processed and charged as 3 day TAT.

Turn Around Times : *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

✓ 3 - Day

1 - Day **2 - Day** **3 - Day** **Same Day (Must Call Ahead)** **Weekend (Must Call Ahead)**



TABLE NO. 1
ASBESTOS BULK SAMPLING RECORD

F&R Project No.: 62x-0329
Inspector: Jesse Phillips
Inspection Date: 8-8-19 ~ 0022100
Client: R. C.
Location: Bat Mtn. - 1990s

Key

M: Miscellaneous Material
S: Surfacing Material
TSI: Thermal Systems Insulation
NAD: No Asbestos Detected

SF: Square Feet
LF: Linear Feet
EA: Each

Sample#	Material Type	Sample Location (Room, Side, Modifiers)	Quantity ²	Friable	ACM Type
1990-1A	Gyp Rd/ St Cpd	Library - Electrical IT/Storage closet - @ Clg Access			
1990-1B	Storage HVAC Room - West wall			
1990-1C	St. Cpd	Library - Elec. IT/stg. closet - North wall e door			
1990-2A	Clg Prod	Library - Elec. IT/stg. closet Access - Clg. → Partial Piece			
1990-2B	Clg Prod	Storage Room - 2x4 Out & Fissures			
1990-3A	10x12 Plaster	Soil Form w/ crev. white, brown smears Library - Mgmt - from Bathrooms			
1990-3B - Storage HVAC Room			
1990-4A	4" Casing Gyp Board/Ti	Library - und. - from #2			
		From 2nd flw - in Mgmt Room			
1990-5A	Yellow Mortar	Library under multicolored carpet square - By fireplace			
1990-5B	.. - Mortar	Library - - @ C. wall on desk			
1990-6A	St. Cpd	Library - children's addition - East end @ outlet			
1990-6B	St. Cpd.	Library - children's addition - West side @ North outlet			
1990-7A	Drywall	Library - children's addition - West side @ outlet			
1990-8A	White Calk	Library - children's addition - wall / brick interface - SE corner			
1990-8B	White Calk	Library - children's addition - wall / brick interface - SW corner			
1990-9A	Brick/Mortar	NE Ext. corner			
1990-9B	Brick/Mortar	SE Ext. corner			
1990-10A	Furn. Room	NE Ext. corner (Brick / Plaster)			

-(G) Good (No damage); (D) Damaged (<10% distributed or <25% localized); (SD) Significantly Damaged (>10% distributed or >25% localized)²
All volumes and areas of ACMs cited in this report are estimates based on visible and inferred site conditions; actual quantities may vary.



TABLE NO. 1
ASBESTOS BULK SAMPLING RECORD

F&R Project No.: 62X-0328
Inspector: Jesse Phillips
Inspection Date: 8-8-19 - 8-12-19
Client: Ro Co.
Location: B+ M+ 19901 Adj.

Key

M: Miscellaneous Material

SF: Square Feet

S: Surfacing Material

LF: Linear Feet

TSI: Thermal Systems Insulation

EA: Each

NAD: No Asbestos Detected

Sample#	Material Type	Sample Location (Room, Side, Modifiers)	Quantity ²	Friable	ACM Type
1990-10A	Foundation	SE Corner - Brick Block/Brick			
1990-11A	Block Castle	Brick Construction Jnt -			
1990-11B	Block Castle West side in western Breezway			
1990-12A	Red HVAC Insulation	Storage HVAC closet			
1990-12B	Red HVAC Insulation	Same as 1990A			
1990-13A	Green HVAC Tins	Storage Stairs b7 HVAC closet			
1990-13B	Green HVAC Tins	Storage proscenium			
1990-14A	TSI - Rm	Same as 1990A - Western foyer/breezway above Clg.			
1990-15A	Tr. Duct, Softl. r	Ducts, Above storage recessed from 1990A			
→ SAME AS 1990A					
1990-16A	Brown 4" Cm. Bsp. + Crown molding	Cafeteria - North side @ Grid door			
1990-16B	Brown 4" Cm. Bsp. + crown molding	Cafeteria - East side @ HVAC double door			
1990-17A	Black Castle Sealant	Black Castle Sealant @ East wall core base under sink - Kitchen			
1990-17B		North wall at tile core base - Kitchen			
1990-18A	TSI Piping	North wall - Kitchen - Water heater			
1990-18B	TSI Piping	Kitchen - North wall @ water heater			
1990-19A	Caulk	Kitchen Mop Closet @ Base of Sink			
1990-19B	Caulk	Kitchen Mop Closet @ Base of Sink			
1990-20A	CMU Block	Kitchen - North wall @ Base of Exit Door - East side			

-(G) Good (No damage); (D) Damaged (<10% distributed or <25% localized); (SD) Significantly Damaged (>10% distributed or >25% localized)²
All volumes and areas of ACMs cited in this report are estimates based on visible and inferred site conditions; actual quantities may vary.



TABLE NO. 1
ASBESTOS BULK SAMPLING RECORD

F&R Project No.: 62X-0328
Inspector: Jesse Phillips
Inspection Date: 5-12-14
Client: Ro. Co.
Location: Baptist Mountain Community 1940's

Key

M: Miscellaneous Material
S: Surfacing Material
TSI: Thermal Systems Insulation
NAD: No Asbestos Detected

SF: Square Feet
LF: Linear Feet
EA: Each

Sample#	Material Type	Sample Location (Room, Side, Modifiers)	Quantity ²	Friable	ACM Type
1940-203	Cmn Block	Kitchen - North wall @ corner of water heater wall			
1940-214	Gypsum Wall Panel	Kitchen - Bathroom - Ceiling			
1940-204	Textum Board	Cafetorium - North wall @ Egg Mtn -			
1940-2213	Textum Board	Cafetorium - West wall @ Middle			
1940-23A	Blue Tile	Men's Restroom - @ East wall - @ firebox base behind door			
1940-24A	Brown Tile	Kitchen - Care Base @ North Door Exit (by 90-204)			
1940-25A	Joint Compound	Kitchen - Ceiling @ Removable ceiling tile - on 2x4 Joint			
1940-26A	Black window glazing compound	West + Side Double Doors entrance - Main - South Door			
1940-27A	Black window glazing compound	West side South facing Double Doors - Entrance to Lin. - East Door			
1940-28A	Black/lear window glaze compound	West Side Courtyard Double Doors - South Door			
1940-29A	Wood Tile - Blue	Cafetorium North side Exit Door - at door transition			
1940-30A	Yellow Porcelain	Historical Room 9 - North wall bad wall			
1940-31A	White caulk	Room @ Restroom w/Shower @ base of Shower Face			
1940-32A	Si. Ins. Caulk	Cafetorium HVAC closet @ HVAC Unit			
1940-33A	Yellow Mortar	Cafetorium HVAC closet @ HVAC Unit Connection to South wall			
1940-34A	White Door Caulk	East Side double doors exterior @ Breezeway damaged Only 1 sample taken			

-(G) Good (No damage); (D) Damaged (<10% distributed or <25% localized); (SD) Significantly Damaged (>10% distributed or >25% localized)²-
All volumes and areas of ACMs cited in this report are estimates based on visible and inferred site conditions; actual quantities may vary.

Appendix E

Photographic Documentation



Photograph #0001 Facing NNE - South facing façade of facility – 1930s Main Entry



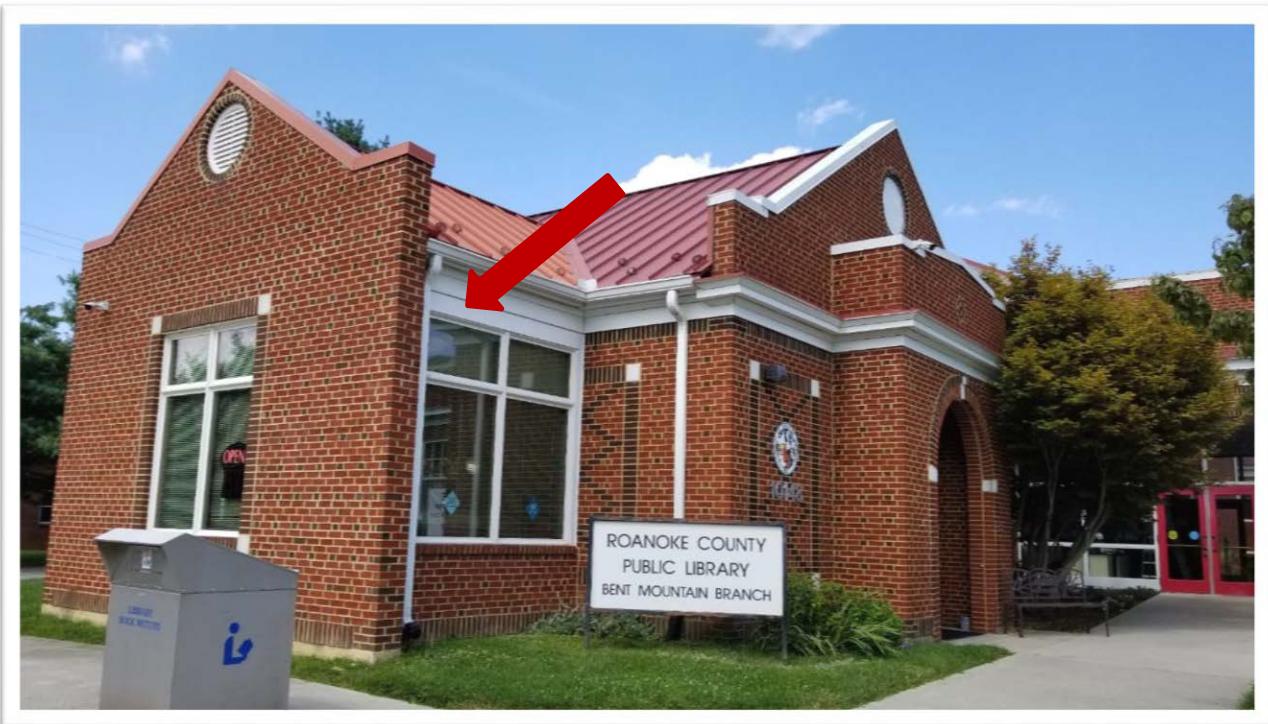
Photograph #0002 Facing NE - West facing façade of facility – 1930s building



Photograph #0003 Facing N - South facing façade of Library facility with 1930s building on right



Photograph #0004 Facing East – Breezeway entry between 1930s building (on right) and 1990s building (on left)



Photograph #0005 Facing NE – Library Addition with children's room on left in photo



Photograph #0006 Facing ESE – L-R – Cafetorium, Library, with Children's Room



Photograph #0007 Facing SW – Entry to Cafetorium on left and entry to kitchen on right



Photograph #0008 Facing SW – Cafetorium; kitchen on far right



Photograph #0009 Facing WSW – 1930s building on left, breezeway, and Cafetorium on right



Photograph #0010 Typical 1930s interior hallway



Photograph #0011 Typical classroom (#2) in 1930s Building



Photograph #0012 Basement of 1930s building



Photograph #0013 1930s building space above drop ceilings in media room area (with presumed ACM and LBP on windows)



Photograph #0014 1930s crawl space conditions (uninsulated pipe)



Photograph #0015 Facing East – courtyard between 1990s building (left) and 1930s building (right) with presumed LBP on upper windows on 1930s building visible



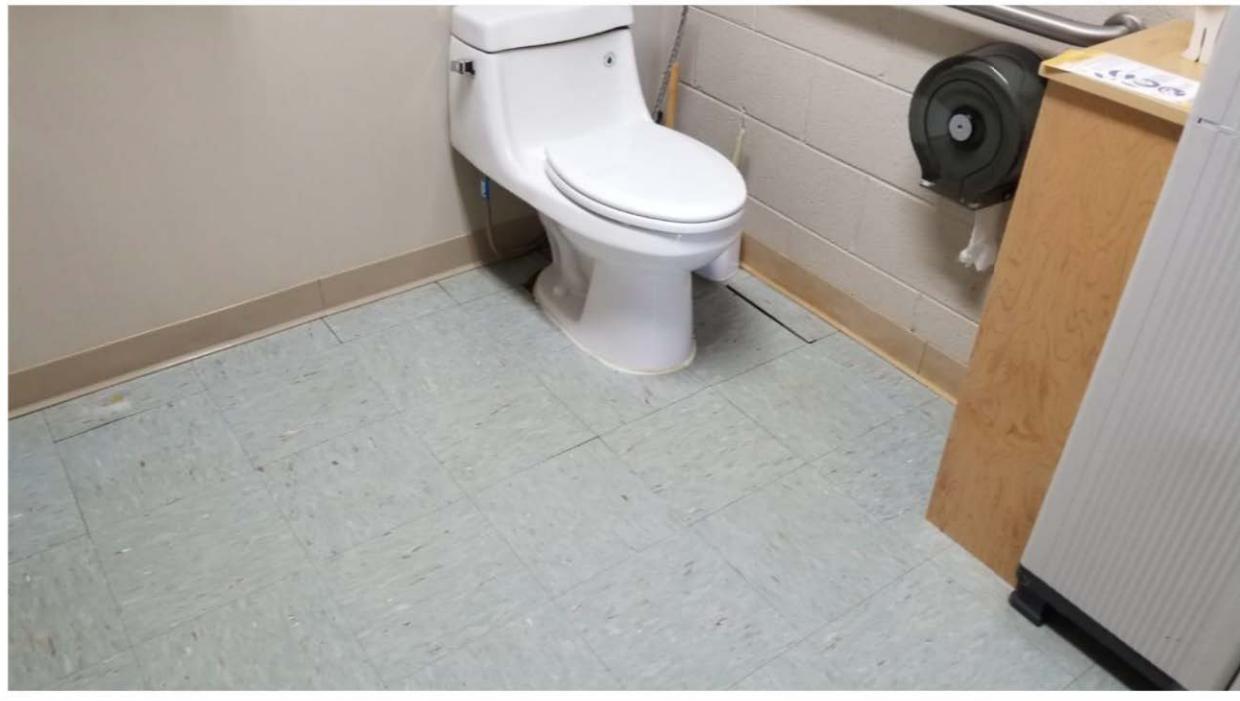
Photograph #0016 Interior of breezeway, facing west from eastern breezeway. Cafetorium on right, 1930s building on left.



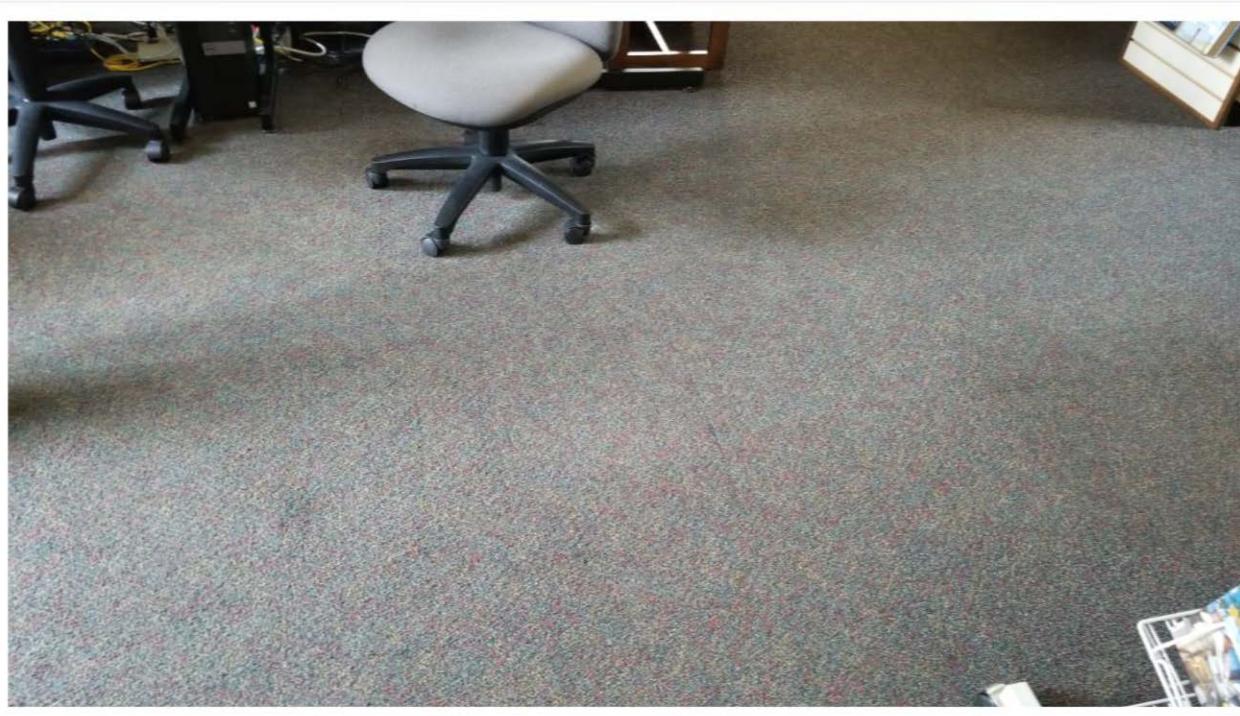
Photograph #0071 Cafetorium interior. Kitchen Entry door at center; exit on right.



Photograph #0018 Cafetorium stage finishes



Photograph #0019 Typical finishes in library bathroom



Photograph #0020 Typical flooring in library



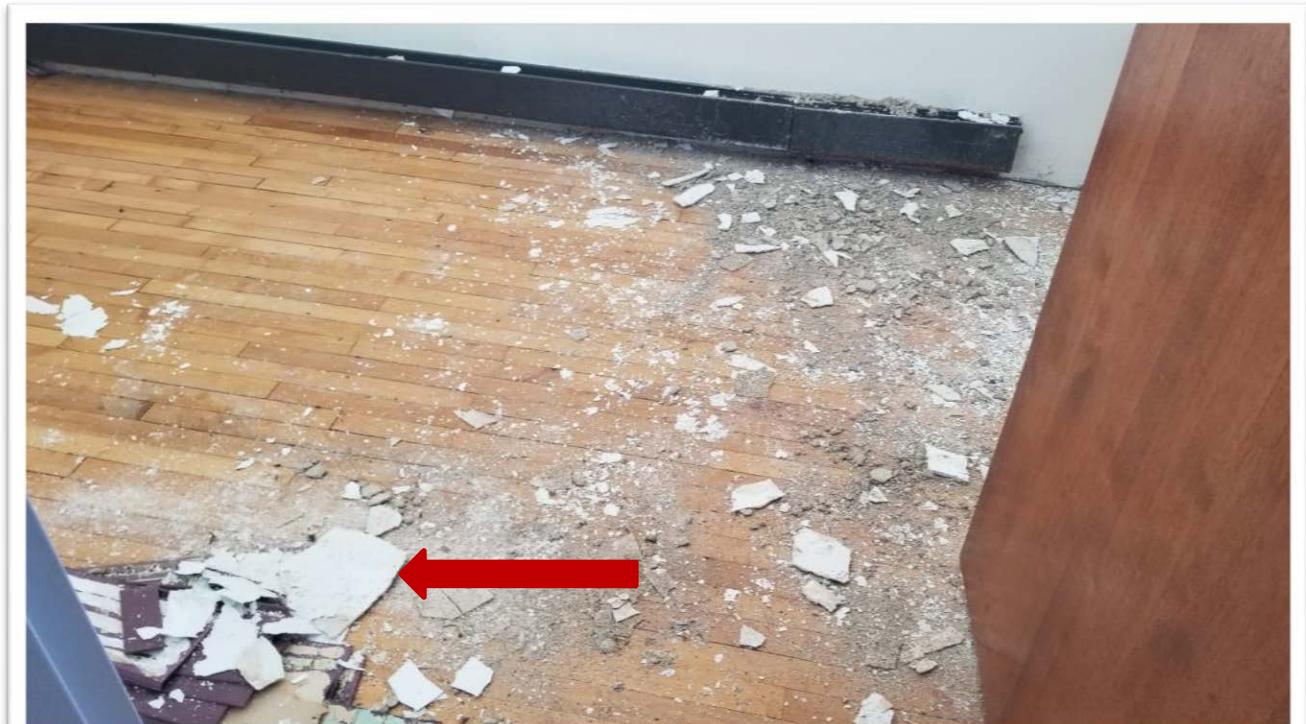
Photograph #0021 (1930) HA 3 (Representative Sampling Location) – Double doors with multi-layer caulk on door casing/brick interface containing asbestos (3% Chrysotile)



Photograph #0020 (1930) HA 4 - Exterior Window of Classroom 2 with Asbestos (2% Chrysotile)



Photograph #0023 (1930) HA 5 – Exterior window with multiple caulk layers containing asbestos: (Trace <1% Chrysotile, 3% Chrysotile); presumed ACM on upper windows.



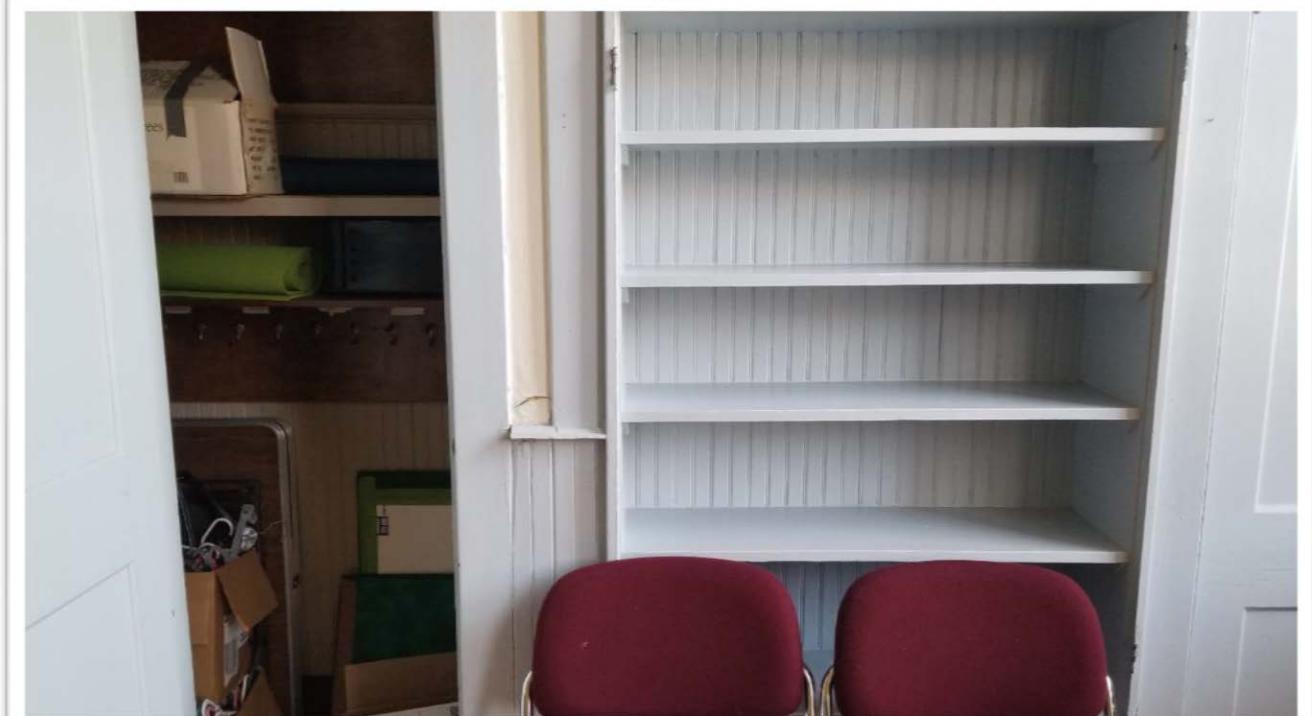
Photograph #0024 (1930) HA 6 – Damaged 2 layer plaster ceiling with asbestos in base coat (Trace <1% Chrysotile)



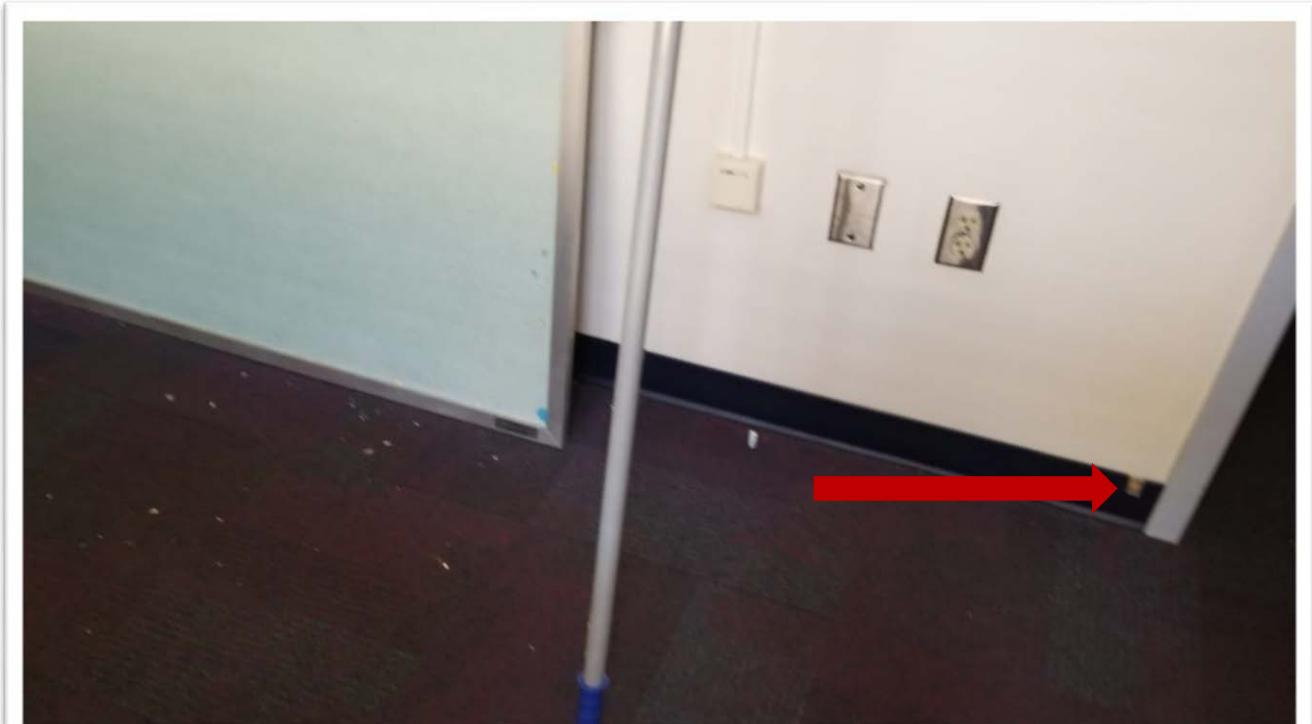
Photograph #0025 (1930) HA 6 – 2 layer plaster ceiling with asbestos in base coat (Trace <1% Chrysotile)



Photograph #0026 (1930) HA 6 – 2 layer plaster ceiling with asbestos in base coat (Trace <1% Chrysotile)



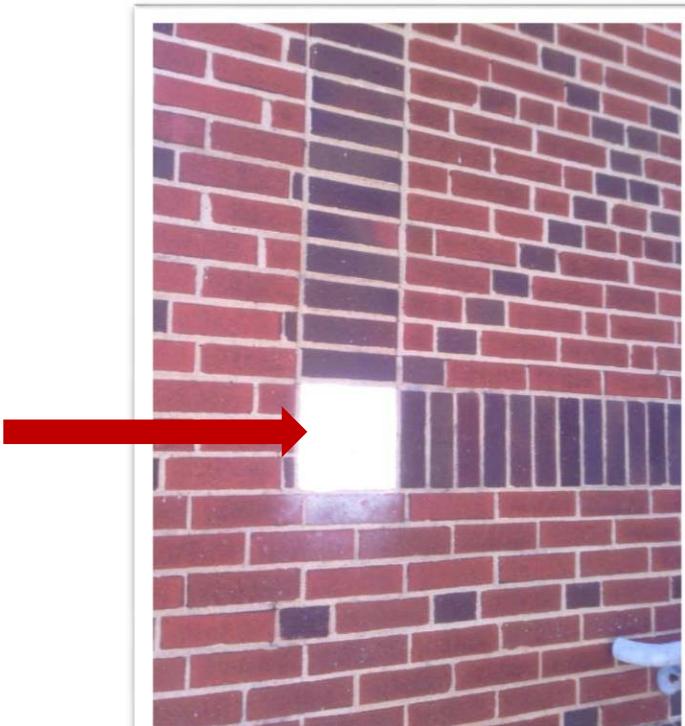
Photograph #0027 (1930) HA 15C – Classroom 3 demising wall with Classroom 4 with trace asbestos in joint compound (Trace <1% Chrysotile) (in closet)



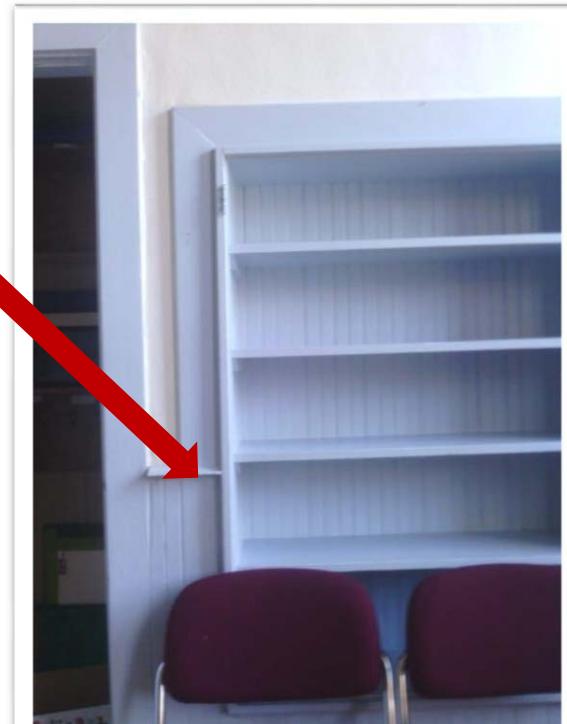
Photograph #0028 (1930) HA 23 – Computer room 6 with trace asbestos found in the joint compound behind the cove base molding in the drywall system (Trace <1% Chrysotile)



Photograph #0029 (1990) HA 26 – Black window glazing with asbestos (2% Chrysotile)



Photograph #0030 Lead Based Paint on white masonry detail on 1930s building



Photograph #0031 Lead Based Paint on chair rail replacement in Room 1 (1930s building)



Photograph #0032 Lead Based Paint on cork bulletin board



Photograph #0033 Lead Based Paint on door casing and transom



Photograph #0034 Lead Based Paint on window components



Photograph #0035 Lead Based Paint on roof trim on 1930s building



Photograph #0036 Lead Based Paint on roof flashing "awning" on breezeway

Appendix F

Explanation of XRF Data Table
XRF Data Table
XRF Performance Characteristic Sheet

EXPLANATION OF XRF DATA TABLES for HEURESIS

Column	Description
Reading No	Sample numbers.
Date & Time	Date and Time of the reading.
Concentration	XRF reading of lead level (in milligrams per square centimeter (mg/cm ²).
Units	Unit of measure that the XRF uses to report readings: mg/cm ² .
Result	Result of the reading: NEG = negative POS = positive
Site	Location of the Project.
Floor	Building Floor the reading was collected on.
Room	Identified Room on the corresponding Floor.
Side	Side within the corresponding Room where the specific reading was collected.
Substrate	The type of material underlying the paint or coating.
Component	Structural or design element the reading was collected from.
Color	Color of the coated surface.

System Info

Company Heuresis Corp.
Model Pb200i
Type XRF Lead Paint Analyzer
Serial Num. 1504
Software Ver. 3.0.11

Reading #	Concentration	Units	+/−	Result	DateTime	Component	Side	Substrate	Color	Room	Built Date	Floor	Project	Inspector	
1	1.2	mg/cm ²	0.2	Positive	8/12/2019 9:18	Calibration							Bent Mountain	Jesse Phillips	
2	1.1	mg/cm ²	0.2	Positive	8/12/2019 9:19	Calibration							Bent Mountain	Jesse Phillips	
3	1.2	mg/cm ²	0.2	Positive	8/12/2019 9:19	Calibration							Bent Mountain	Jesse Phillips	
4	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:22	Wall	North	Gypsum Board	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
5	0.2	mg/cm ²	0.4	Negative	8/12/2019 9:23	Wall	West	Gypsum Board	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
6	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:25	Wall	East	Gypsum Board	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
7	0.2	mg/cm ²	0.4	Negative	8/12/2019 9:25	Wall	East	Gypsum Board	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
8	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:26	Wall	South	Gypsum Board	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
9	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:26	Ceiling	South	Gypsum Board	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
10	-0.2	mg/cm ²	0.5	Negative	8/12/2019 9:27	Wall	East	CMU	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
11	-0.1	mg/cm ²	0.4	Negative	8/12/2019 9:28	Door Casing	South	Wood	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
12	0.1	mg/cm ²	0.5	Negative	8/12/2019 9:28	Door	South	Metal	Red	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
13	-0.1	mg/cm ²	0.4	Negative	8/12/2019 9:29	Door	South	Wood	Varnish/Stain	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
14	0.2	mg/cm ²	0.5	Negative	8/12/2019 9:30	Door Casing	South	Metal	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
15	-0.2	mg/cm ²	0.4	Negative	8/12/2019 9:31	Shelf	East	Wood	Varnish/Stain	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
16	0	mg/cm ²	0.5	Negative	8/12/2019 9:31	Shelf	North	Metal	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
17	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:32	Ceiling	N/A	Gypsum Board	White	Library Bathroom	1990+	First	Bent Mountain	Jesse Phillips	
18	0.1	mg/cm ²	0.5	Negative	8/12/2019 9:33	Wall	North	Gypsum Board	Beige	Library Bathroom	1990+	First	Bent Mountain	Jesse Phillips	
19	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:34	Wall	North	Gypsum Board	Beige	Library IT Closet	1990+	First	Bent Mountain	Jesse Phillips	
20	-0.1	mg/cm ²	0.5	Negative	8/12/2019 9:34	Wall	East	CMU	Beige	Library IT Closet	1990+	First	Bent Mountain	Jesse Phillips	
21	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:36	Wall	West	Gypsum Board	Beige	Library - Childrens Area	1990+	First	Bent Mountain	Jesse Phillips	
22	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:36	Wall	North	Gypsum Board	Beige	Library - Childrens Area	1990+	First	Bent Mountain	Jesse Phillips	
23	0.1	mg/cm ²	0.5	Negative	8/12/2019 9:36	Door Casing	East	Wood	Beige	Library - Childrens Area	1990+	First	Bent Mountain	Jesse Phillips	
24	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:37	Window Casing	West	Wood	Beige	Library - Childrens Area	1990+	First	Bent Mountain	Jesse Phillips	
25	0	mg/cm ²	0.4	Negative	8/12/2019 9:38	Window Sill	South	Wood	Beige	Library - Childrens Area	1990+	First	Bent Mountain	Jesse Phillips	
26	0	mg/cm ²	0.5	Negative	8/12/2019 9:38	Window Casing	South	Wood	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
27	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:39	Window Sill	South	Wood	Beige	Library - Main	1990+	First	Bent Mountain	Jesse Phillips	
28	-0.1	mg/cm ²	0.4	Negative	8/12/2019 9:41	Window Casing	South	Wood	White	Library Exterior	1990+	First	Bent Mountain	Jesse Phillips	
29	0	mg/cm ²	0.4	Negative	8/12/2019 9:41	Window Sill	South	Wood	White	Library Exterior	1990+	First	Bent Mountain	Jesse Phillips	
30	0.1	mg/cm ²	0.5	Negative	8/12/2019 9:42	Door	South	Metal	Red	Library Exterior	1990+	First	Bent Mountain	Jesse Phillips	
31	-0.1	mg/cm ²	0.4	Negative	8/12/2019 9:42	Door Casing	South	Wood	White	Library Exterior	1990+	First	Bent Mountain	Jesse Phillips	
32	0.2	mg/cm ²	0.4	Negative	8/12/2019 9:43	Window Casing	South	Metal	White	Library Exterior	1990+	First	Bent Mountain	Jesse Phillips	
33	-0.1	mg/cm ²	0.4	Negative	8/12/2019 9:44	Gutter Downspout	North	Metal	White	Library Exterior	1990+	First	Bent Mountain	Jesse Phillips	
34	8.5	mg/cm ²	0.5	Positive	8/12/2019 9:50	Door Casing	North	Wood	Blue	West Foyer	1930	First	Bent Mountain	Jesse Phillips	
35	10.9	mg/cm ²	0.5	Positive	8/12/2019 9:52	Door Transom	North	Wood	Blue	West Foyer	1930	First	Bent Mountain	Jesse Phillips	
36	12.1	mg/cm ²	0.5	Positive	8/12/2019 9:54	Window Sill	West	Concrete	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
37	2	mg/cm ²	0.4	Positive	8/12/2019 9:56	Window Mullion	South	Metal	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
38	0.2	mg/cm ²	0.4	Negative	8/12/2019 9:56	Window Well	South	Metal	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
39	8.7	mg/cm ²	0.5	Positive	8/12/2019 9:57	Door Casing	South	Wood	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
40	-0.1	mg/cm ²	0.4	Negative	8/12/2019 9:58	Door	South	Wood	Red	Exterior	1930	First	Bent Mountain	Jesse Phillips	
41	0.1	mg/cm ²	0.4	Negative	8/12/2019 9:58	Door	South	Wood	Red	Exterior	1930	First	Bent Mountain	Jesse Phillips	
42	6.4	mg/cm ²	0.5	Positive	8/12/2019 10:00	Wall - White Masonry Detail	North	Concrete	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
43	0.9	mg/cm ²	0.3	NULL	8/12/2019 10:03	Window Well	West	Wood	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
44	0.6	mg/cm ²	0.2	Negative	8/12/2019 10:03	Window Well	West	Wood	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
45	3.4	mg/cm ²	0.5	Positive	8/12/2019 10:04	Window Well	West	Wood	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
46	-0.1	mg/cm ²	0.5	Negative	8/12/2019 10:05	Window Sash	West	Wood	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
47	0.4	mg/cm ²	0.4	Negative	8/12/2019 10:06	Window Sash	West	Wood	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
48	1.8	mg/cm ²	0.5	Positive	8/12/2019 10:06	Window Sash	West	Wood	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
49	9	mg/cm ²	0.5	Positive	8/12/2019 10:07	Window Casing	West	Wood	White	Exterior	1930	First	Bent Mountain	Jesse Phillips	
50	0.1	mg/cm ²	0.4	Negative	8/12/2019 10:10	Wall	West	Plaster	White	1	1930	First	Bent Mountain	Jesse Phillips	
51	0.2	mg/cm ²	0.5	Negative	8/12/2019 10:10	Wall	North	Plaster	White	1	1930	First	Bent Mountain	Jesse Phillips	
52	0.2	mg/cm ²	0.5	Negative	8/12/2019 10:11	Wall	Wall below chair rail	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips	
53	0.3	mg/cm ²	0.4	Negative	8/12/2019 10:11	Wall	Wall below chair rail	East	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips
54	6.7	mg/cm ²	0.5	Positive	8/12/2019 10:12	Chair Rail - replacement piece	South	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips	
55	0.3	mg/cm ²	0.4	Negative	8/12/2019 10:12	Chair Rail	East	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips	
56	0.1	mg/cm ²	0.4	Negative	8/12/2019 10:13	Bulletin Board - Large	East	Cork	White	1	1930	First	Bent Mountain	Jesse Phillips	
57	0.1	mg/cm ²	0.5	Negative	8/12/2019 10:14	Bulletin Board casing	East	Wood	Beige	1	1930	First	Bent Mountain	Jesse Phillips	
58	0.1	mg/cm ²	0.4	Negative	8/12/2019 10:15	Chalk Board Casing	East	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips	
59	0.1	mg/cm ²	0.4	Negative	8/12/2019 10:15	Shelf	South	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips	
60	0	mg/cm ²	0.4	Negative	8/12/2019 10:16	Shelf Beadboard	South	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips	

Reading #	Concentration	Units	+/ -	Result	DateTime	Component	Side	Substrate	Color	Room	Built Date	Floor	Project	Inspector
61	0	mg/cm2	0.4	Negative	8/12/2019 10:16	Shelf Casing	South	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips
62	0.1	mg/cm2	0.4	Negative	8/12/2019 10:17	Door Closet	South	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips
63	0.2	mg/cm2	0.4	Negative	8/12/2019 10:18	Door Closet Casing	South	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips
64	0.1	mg/cm2	0.5	Negative	8/12/2019 10:18	Window Sill	West	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips
65	0.7	mg/cm2	0.2	Negative	8/12/2019 10:19	Window Sash	West	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips
66	0	mg/cm2	0.4	Negative	8/12/2019 10:21	Window Casing	West	Wood	Blue	1	1930	First	Bent Mountain	Jesse Phillips
67	0.5	mg/cm2	0.3	Negative	8/12/2019 10:21	Door Casing	East	Metal	Blue	1	1930	First	Bent Mountain	Jesse Phillips
68	0	mg/cm2	0.4	Negative	8/12/2019 10:23	Door	East	Wood	Varnish/Stain	1	1930	First	Bent Mountain	Jesse Phillips
69	0.5	mg/cm2	0.3	Negative	8/12/2019 10:26	Ceiling	N/A	Plaster	White	1	1930	First	Bent Mountain	Jesse Phillips
70	0.1	mg/cm2	0.5	Negative	8/12/2019 10:26	Floor	N/A	Wood	Varnish/Stain	1	1930	First	Bent Mountain	Jesse Phillips
71	0.1	mg/cm2	0.4	Negative	8/12/2019 10:28	Wall	West	Plaster	White	2	1930	First	Bent Mountain	Jesse Phillips
72	0.2	mg/cm2	0.4	Negative	8/12/2019 10:30	Chair Rail	South	Wood	Blue	2	1930	First	Bent Mountain	Jesse Phillips
73	0.3	mg/cm2	0.4	Negative	8/12/2019 10:31	Closet Wall	South	Wood	Gray	2	1930	First	Bent Mountain	Jesse Phillips
74	0.3	mg/cm2	0.4	Negative	8/12/2019 10:31	Closet Shelf	South	Wood	Gray	2	1930	First	Bent Mountain	Jesse Phillips
75	0.3	mg/cm2	0.4	Negative	8/12/2019 10:31	Closet Chair Rail	South	Wood	Gray	2	1930	First	Bent Mountain	Jesse Phillips
76	0.1	mg/cm2	0.5	Negative	8/12/2019 10:32	Closet Wall	South	Plaster	Off-White	2	1930	First	Bent Mountain	Jesse Phillips
77	0.3	mg/cm2	0.4	Negative	8/12/2019 10:33	Wall Wall below chair rail	East	Plaster	Off-White	2	1930	First	Bent Mountain	Jesse Phillips
78	0.5	mg/cm2	0.3	Negative	8/12/2019 10:34	Wall Wall above chair rail	North	Plaster	White	3	1930	First	Bent Mountain	Jesse Phillips
79	2.5	mg/cm2	0.4	Positive	8/12/2019 10:35	Bulletin Board Above Chalkboard	West	Cork	White	3	1930	First	Bent Mountain	Jesse Phillips
80	2.6	mg/cm2	0.4	Positive	8/12/2019 10:36	Bulletin Board Above Chalkboard	North	Cork	White	3	1930	First	Bent Mountain	Jesse Phillips
81	0.3	mg/cm2	0.4	Negative	8/12/2019 10:37	Bulletin Board -	North	Wood	Blue	3	1930	First	Bent Mountain	Jesse Phillips
82	0.2	mg/cm2	0.4	Negative	8/12/2019 10:37	Bulletin Board -	North	Wood	Blue	3	1930	First	Bent Mountain	Jesse Phillips
83	0.2	mg/cm2	0.4	Negative	8/12/2019 10:37	Bulletin Board -	North	Wood	Blue	3	1930	First	Bent Mountain	Jesse Phillips
84	0.3	mg/cm2	0.4	Negative	8/12/2019 10:38	Cabinet Door	East	Wood	Blue	3	1930	First	Bent Mountain	Jesse Phillips
85	0.1	mg/cm2	0.4	Negative	8/12/2019 10:40	Crown Molding	West	Wood	Blue	3	1930	First	Bent Mountain	Jesse Phillips
86	0.1	mg/cm2	0.4	Negative	8/12/2019 10:41	Door	West	Wood	Varnish/Stain	4	1930	First	Bent Mountain	Jesse Phillips
87	0.5	mg/cm2	0.3	Negative	8/12/2019 10:42	Door Casing	West	Metal	Blue	4	1930	First	Bent Mountain	Jesse Phillips
88	-0.1	mg/cm2	0.5	Negative	8/12/2019 10:43	Wall	West	Plaster	White	4	1930	First	Bent Mountain	Jesse Phillips
89	0.1	mg/cm2	0.4	Negative	8/12/2019 10:43	Wall	East	Plaster	White	4	1930	First	Bent Mountain	Jesse Phillips
90	0	mg/cm2	0.4	Negative	8/12/2019 10:44	Window Sill	East	Wood	Blue	4	1930	First	Bent Mountain	Jesse Phillips
91	0.7	mg/cm2	0.2	Negative	8/12/2019 10:44	Window Sash	East	Wood	Blue	4	1930	First	Bent Mountain	Jesse Phillips
92	0.2	mg/cm2	0.5	Negative	8/12/2019 10:45	Window Mullion	East	Wood	Blue	4	1930	First	Bent Mountain	Jesse Phillips
93	12.1	mg/cm2	0.5	Positive	8/12/2019 10:46	Window Parting Bead	East	Wood	White	4	1930	First - Exterior side	Bent Mountain	Jesse Phillips
94	0.1	mg/cm2	0.4	Negative	8/12/2019 10:47	Wall	East	Plaster	White	4	1930	First	Bent Mountain	Jesse Phillips
95	0.1	mg/cm2	0.5	Negative	8/12/2019 10:48	Wall	North	Gypsum Board	White	4	1930	First	Bent Mountain	Jesse Phillips
96	0	mg/cm2	0.4	Negative	8/12/2019 10:56	Ceiling	N/A	Plaster	White	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
97	0.6	mg/cm2	0.3	Negative	8/12/2019 10:56	Ceiling	N/A	Plaster	White	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
98	0.1	mg/cm2	0.4	Negative	8/12/2019 10:57	Wall	South	Plaster	White	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
99	0.2	mg/cm2	0.5	Negative	8/12/2019 10:59	Shelf	East	Wood	Blue	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
100	0.1	mg/cm2	0.4	Negative	8/12/2019 11:00	Chair Rail	East	Wood	Blue	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
101	-0.2	mg/cm2	0.4	Negative	8/12/2019 11:02	Door Closet	East	Wood	Blue	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
102	0.2	mg/cm2	0.4	Negative	8/12/2019 11:03	Door Closet Casing	East	Wood	Blue	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
103	0	mg/cm2	0.4	Negative	8/12/2019 11:03	Window Sill	South	Wood	Blue	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
104	0.2	mg/cm2	0.4	Negative	8/12/2019 11:03	Window Sash	South	Wood	Blue	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
105	0	mg/cm2	0.4	Negative	8/12/2019 11:04	Window Mullion	South	Wood	Blue	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
106	-0.1	mg/cm2	0.4	Negative	8/12/2019 11:04	Closet Wall	East	Wood	Gray	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
107	0.1	mg/cm2	0.4	Negative	8/12/2019 11:05	Closet Chair Rail	East	Wood	Gray	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
108	-0.1	mg/cm2	0.5	Negative	8/12/2019 11:06	Closet Wall	East	Plaster	Gray	Office - Workroom	1930	First	Bent Mountain	Jesse Phillips
109	-0.1	mg/cm2	0.5	Negative	8/12/2019 11:09	Ceiling	N/A	Plaster	White	Principals Office	1930	First	Bent Mountain	Jesse Phillips
110	0.2	mg/cm2	0.5	Negative	8/12/2019 11:10	Wall	North	Plaster	Brown	Principals Office	1930	First	Bent Mountain	Jesse Phillips
111	0.1	mg/cm2	0.4	Negative	8/12/2019 11:10	Wall	East	Plaster	Brown	Principals Office	1930	First	Bent Mountain	Jesse Phillips
112	0.2	mg/cm2	0.5	Negative	8/12/2019 11:11	Wall	South	Plaster	Brown	Principals Office	1930	First	Bent Mountain	Jesse Phillips
113	-0.4	mg/cm2	0.5	Negative	8/12/2019 11:11	Wall	West	Plaster	Brown	Principals Office	1930	First	Bent Mountain	Jesse Phillips
114	0	mg/cm2	0.4	Negative	8/12/2019 11:12	Window Sill	South	Wood	Off-White	Principals Office	1930	First	Bent Mountain	Jesse Phillips
115	0.1	mg/cm2	0.4	Negative	8/12/2019 11:12	Window Sash	South	Wood	Off-White	Principals Office	1930	First	Bent Mountain	Jesse Phillips
116	0.2	mg/cm2	0.5	Negative	8/12/2019 11:13	Window Mullion	South	Wood	Off-White	Principals Office	1930	First	Bent Mountain	Jesse Phillips
117	0.1	mg/cm2	0.4	Negative	8/12/2019 11:13	Window Casing	South	Wood	Off-White	Principals Office	1930	First	Bent Mountain	Jesse Phillips
118	0	mg/cm2	0.4	Negative	8/12/2019 11:15	Floor	N/A	Wood	Varnish/Stain	Main Office - General	1930	First	Bent Mountain	Jesse Phillips
119	0.2	mg/cm2	0.5	Negative	8/12/2019 11:16	Wall	North	Plaster	White	Media Center	1930	First	Bent Mountain	Jesse Phillips
120	0.1	mg/cm2	0.4	Negative	8/12/2019 11:17	Wall	East	Gypsum Board	White	Media Center	1930	First	Bent Mountain	Jesse Phillips
121	0.2	mg/cm2	0.4	Negative	8/12/2019 11:18	Wall	West	Gypsum Board	White	Media Center	1930	First	Bent Mountain	Jesse Phillips
122	0.1	mg/cm2	0.4	Negative	8/12/2019 11:19	Wall	South	Gypsum Board	White	Media Center	1930	First	Bent Mountain	Jesse Phillips
123	0.1	mg/cm2	0.5	Negative	8/12/2019 11:20	Door Casing	South	Metal	Blue	Media Center	1930	First	Bent Mountain	Jesse Phillips
124	0	mg/cm2	0.4	Negative	8/12/2019 11:22	Window Sill	North	Wood	Blue	6	1930	First	Bent Mountain	Jesse Phillips
125	1.4	mg/cm2	0.3	Positive	8/12/2019 11:22	Window Sash	North	Wood	Blue	6	1930	First	Bent Mountain	Jesse Phillips
126	0.4	mg/cm2	0.4	Negative	8/12/2019 11:23	Window Sash	North	Wood	Blue	6	1930	First	Bent Mountain	Jesse Phillips
127	1.4	mg/cm2	0.3	Positive	8/12/2019 11:23	Window Sash	North	Wood	Blue	6	1930	First	Bent Mountain	Jesse Phillips

Reading #	Concentration	Units	+/−	Result	DateTime	Component	Side	Substrate	Color	Room	Built Date	Floor	Project	Inspector
128	0.3	mg/cm ²	0.4	Negative	8/12/2019 11:24	Window Mullion	North	Wood	Blue	6	1930	First	Bent Mountain	Jesse Phillips
129	1	mg/cm²	0.2	Positive	8/12/2019 11:25	Window Sash	North	Wood	Blue	Media Center	1930	First	Bent Mountain	Jesse Phillips
130	0.4	mg/cm ²	0.4	Negative	8/12/2019 11:26	Window Sash	North	Wood	Blue	Media Center	1930	First	Bent Mountain	Jesse Phillips
131	1.4	mg/cm²	0.3	Positive	8/12/2019 11:26	Window Sash	North	Wood	Blue	Media Center	1930	First	Bent Mountain	Jesse Phillips
132	0.1	mg/cm ²	0.5	Negative	8/12/2019 11:28	Window Casing	East	Metal	Blue	Media Center	1930	First	Bent Mountain	Jesse Phillips
133	0	mg/cm ²	0.4	Negative	8/12/2019 11:29	Door	North	Wood	Blue	East Hallway	1930	First	Bent Mountain	Jesse Phillips
134	0	mg/cm ²	0.4	Negative	8/12/2019 11:29	Door	North	Wood	Blue	East Hallway	1930	First	Bent Mountain	Jesse Phillips
135	0	mg/cm ²	0.4	Negative	8/12/2019 11:29	Door	North	Wood	Blue	East Hallway	1930	First	Bent Mountain	Jesse Phillips
136	11.5	mg/cm²	0.5	Positive	8/12/2019 11:30	Door Mullion	North	Wood	Blue	East Hallway	1930	First	Bent Mountain	Jesse Phillips
137	0.3	mg/cm ²	0.4	Negative	8/12/2019 11:30	Door Casing	North	Wood	Blue	East Hallway	1930	First	Bent Mountain	Jesse Phillips
138	0.3	mg/cm ²	0.5	Negative	8/12/2019 11:31	Wall	North	Plaster	White	East Hallway	1930	First	Bent Mountain	Jesse Phillips
139	0	mg/cm ²	0.5	Negative	8/12/2019 11:32	Wall	West	Plaster	White	East Hallway	1930	First	Bent Mountain	Jesse Phillips
140	0.1	mg/cm ²	0.5	Negative	8/12/2019 11:32	Wall	West	Concrete	White	East Hallway	1930	First	Bent Mountain	Jesse Phillips
141	0.1	mg/cm ²	0.5	Negative	8/12/2019 11:33	Wall	East	Plaster	White	East Hallway	1930	First	Bent Mountain	Jesse Phillips
142	-0.3	mg/cm ²	0.5	Negative	8/12/2019 11:33	Wall	South	Plaster	White	East Hallway	1930	First	Bent Mountain	Jesse Phillips
143	0	mg/cm ²	0.4	Negative	8/12/2019 11:34	Corner Trim	North	Wood	Blue	East Hallway	1930	First	Bent Mountain	Jesse Phillips
144	-0.1	mg/cm ²	0.4	Negative	8/12/2019 11:35	Column	South	Wood	Blue	South Hallway	1930	First	Bent Mountain	Jesse Phillips
145	0.2	mg/cm ²	0.4	Negative	8/12/2019 11:36	Door Casing	South	Wood	Blue	South Hallway	1930	First	Bent Mountain	Jesse Phillips
146	0.4	mg/cm ²	0.4	Negative	8/12/2019 11:37	Door Casing	South	Wood	Blue	South Hallway	1930	First	Bent Mountain	Jesse Phillips
147	0	mg/cm ²	0.4	Negative	8/12/2019 11:37	Door	South	Wood	Red	South Hallway	1930	First	Bent Mountain	Jesse Phillips
148	0.2	mg/cm ²	0.5	Negative	8/12/2019 11:38	Wall Wall below chair rail	South	Wood	Blue	South Hallway	1930	First	Bent Mountain	Jesse Phillips
149	0.3	mg/cm ²	0.4	Negative	8/12/2019 11:38	Wall Wall above chair rail	South	Plaster	White	South Hallway	1930	First	Bent Mountain	Jesse Phillips
150	0.4	mg/cm ²	0.4	Negative	8/12/2019 11:39	Chair Rail	South	Wood	Blue	South Hallway	1930	First	Bent Mountain	Jesse Phillips
151	0.1	mg/cm ²	0.4	Negative	8/12/2019 11:51	Wall	North	Gypsum Board	White	7	1930	First	Bent Mountain	Jesse Phillips
152	0.1	mg/cm ²	0.5	Negative	8/12/2019 11:51	Wall	West	Gypsum Board	White	7	1930	First	Bent Mountain	Jesse Phillips
153	0	mg/cm ²	0.5	Negative	8/12/2019 11:53	Panel Access	West	Metal	White	7 - Bathroom	1930	First	Bent Mountain	Jesse Phillips
154	0	mg/cm ²	0.4	Negative	8/12/2019 11:53	Chair Rail	North	Wood	White	7 - Bathroom	1930	First	Bent Mountain	Jesse Phillips
155	0.1	mg/cm ²	0.4	Negative	8/12/2019 11:54	Ceiling	N/A	Gypsum Board	White	7 - Bathroom	1930	First	Bent Mountain	Jesse Phillips
156	0	mg/cm ²	0.5	Negative	8/12/2019 11:54	Door Casing	South	Metal	Blue	7 - Bathroom	1930	First	Bent Mountain	Jesse Phillips
157	-0.1	mg/cm ²	0.4	Negative	8/12/2019 11:55	Door	South	Wood	Varnish/Stain	7 - Bathroom	1930	First	Bent Mountain	Jesse Phillips
158	0.1	mg/cm ²	0.4	Negative	8/12/2019 11:57	Window Sill	North	Wood	Blue	8	1930	First	Bent Mountain	Jesse Phillips
159	1.3	mg/cm²	0.2	Positive	8/12/2019 11:57	Window Sash	North	Wood	Blue	8	1930	First	Bent Mountain	Jesse Phillips
160	1.2	mg/cm²	0.2	Positive	8/12/2019 11:58	Window Sash	North	Wood	Blue	8	1930	First	Bent Mountain	Jesse Phillips
161	-0.2	mg/cm ²	0.5	Negative	8/12/2019 12:00	Wall	North	Brick	Brown	9	1930	First	Bent Mountain	Jesse Phillips
162	0	mg/cm ²	0.5	Negative	8/12/2019 12:00	Wall	North	Brick	White	9	1930	First	Bent Mountain	Jesse Phillips
163	0.2	mg/cm ²	0.5	Negative	8/12/2019 12:01	Wall	South	Brick	White	9	1930	First	Bent Mountain	Jesse Phillips
164	0.2	mg/cm ²	0.4	Negative	8/12/2019 12:01	Wall	West	Gypsum Board	White	9	1930	First	Bent Mountain	Jesse Phillips
165	0.7	mg/cm ²	0.2	Negative	8/12/2019 12:04	Ceiling	N/A	Plaster	White	9	1930	First	Bent Mountain	Jesse Phillips
166	0.1	mg/cm ²	0.5	Negative	8/12/2019 12:05	Floor	N/A	Concrete	Maroon	9	1930	First	Bent Mountain	Jesse Phillips
167	0.2	mg/cm ²	0.5	Negative	8/12/2019 12:07	Floor	N/A	Concrete	Maroon	9	1930	First	Bent Mountain	Jesse Phillips
168	0.1	mg/cm ²	0.4	Negative	8/12/2019 12:07	Window Sill	West	Wood	Beige	9	1930	First	Bent Mountain	Jesse Phillips
169	0.2	mg/cm ²	0.4	Negative	8/12/2019 12:08	Window Sash	West	Wood	Beige	9	1930	First	Bent Mountain	Jesse Phillips
170	0.9	mg/cm ²	0.2	Negative	8/12/2019 12:09	Window Sash	West	Wood	Beige	9	1930	First	Bent Mountain	Jesse Phillips
171	0	mg/cm ²	0.5	Negative	8/12/2019 12:10	Window Mullion	West	Wood	Beige	9	1930	First	Bent Mountain	Jesse Phillips
172	0	mg/cm ²	0.4	Negative	8/12/2019 12:11	Panel Mounting	North	Gypsum Board	Gray	9	1930	First	Bent Mountain	Jesse Phillips
173	0.1	mg/cm ²	0.4	Negative	8/12/2019 12:12	Pipe Domestic Water	South	Paper Jacketing	White	9	1930	First	Bent Mountain	Jesse Phillips
174	0.2	mg/cm ²	0.5	Negative	8/12/2019 12:13	Pipe Vent	North	Metal	Brown	9	1930	First	Bent Mountain	Jesse Phillips
175	0.2	mg/cm ²	0.5	Negative	8/12/2019 12:15	Door	North	Wood	White	Boiler/Mech/Utility	1930	Stairwell	Bent Mountain	Jesse Phillips
176	0.1	mg/cm ²	0.4	Negative	8/12/2019 12:15	Door Casing	North	Wood	White	Boiler/Mech/Utility	1930	Stairwell	Bent Mountain	Jesse Phillips
177	7.2	mg/cm²	0.5	Positive	8/12/2019 12:16	Fascia	North	Wood	White	Boiler/Mech/Utility	1930	Stairwell	Bent Mountain	Jesse Phillips
178	14.9	mg/cm²	0.5	Positive	8/12/2019 12:16	Roof Top	North	Metal	Red	Boiler/Mech/Utility	1930	Stairwell	Bent Mountain	Jesse Phillips
179	2.6	mg/cm²	0.5	Positive	8/12/2019 12:18	Wall	North	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room B	Bent Mountain	Jesse Phillips
180	1.3	mg/cm²	0.2	Positive	8/12/2019 12:19	Wall	North	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room B	Bent Mountain	Jesse Phillips
181	1.1	mg/cm²	0.2	Positive	8/12/2019 12:20	Wall	South	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room B	Bent Mountain	Jesse Phillips
182	0.1	mg/cm ²	0.5	Negative	8/12/2019 12:21	Wall	East	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room C	Bent Mountain	Jesse Phillips
183	0.2	mg/cm ²	0.5	Negative	8/12/2019 12:22	Wall	West	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room C	Bent Mountain	Jesse Phillips
184	0.1	mg/cm ²	0.5	Negative	8/12/2019 12:22	Wall	South	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room C	Bent Mountain	Jesse Phillips
185	0.4	mg/cm ²	0.4	Negative	8/12/2019 12:22	Wall	North	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room C	Bent Mountain	Jesse Phillips
186	-0.1	mg/cm ²	0.5	Negative	8/12/2019 12:24	Ceiling	N/A	Plaster	White	Boiler/Mech/Utility	1930	Basement - Room C	Bent Mountain	Jesse Phillips
187	0.4	mg/cm ²	0.4	Negative	8/12/2019 12:24	Ceiling	N/A	Plaster	White	Boiler/Mech/Utility	1930	Basement - Room B	Bent Mountain	Jesse Phillips
188	0.1	mg/cm ²	0.5	Negative	8/12/2019 12:25	Floor	N/A	Concrete	Gray	Boiler/Mech/Utility	1930	Basement - Room B	Bent Mountain	Jesse Phillips
189	0	mg/cm ²	0.5	Negative	8/12/2019 12:25	Pipe Sewer	North	Metal	White	Boiler/Mech/Utility	1930	Basement - Room B	Bent Mountain	Jesse Phillips
190	10.3	mg/cm²	0.5	Positive	8/12/2019 12:26	Door	West	Wood	White	Boiler/Mech/Utility	1930	Basement - Room A	Bent Mountain	Jesse Phillips
191	0.4	mg/cm ²	0.4	Negative	8/12/2019 12:26	Door Casing	West	Wood	White	Boiler/Mech/Utility	1930	Basement - Room A	Bent Mountain	Jesse Phillips
192	0	mg/cm ²	0.5	Negative	8/12/2019 12:27	Wall	West	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room A	Bent Mountain	Jesse Phillips
193	-0.1	mg/cm ²	0.5	Negative	8/12/2019 12:28	Wall	North	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room A	Bent Mountain	Jesse Phillips
194	1.3	mg/cm ²	0.3	NULL	8/12/2019 12:28	Wall	East	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room A	Bent Mountain	Jesse Phillips

Reading #	Concentration	Units	+/-	Result	DateTime	Component	Side	Substrate	Color	Room	Built Date	Floor	Project	Inspector
195	1.1	mg/cm2	0.2	Positive	8/12/2019 12:29	Wall	East	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room A	Bent Mountain	Jesse Phillips
196	0.3	mg/cm2	0.5	Negative	8/12/2019 12:30	Wall	South	Concrete	White	Boiler/Mech/Utility	1930	Basement - Room A	Bent Mountain	Jesse Phillips
197	0.1	mg/cm2	0.5	Negative	8/12/2019 12:30	Stair Tread	N/A	Concrete	Gray	Boiler/Mech/Utility	1930	Basement Stairwell	Bent Mountain	Jesse Phillips
198	0.1	mg/cm2	0.5	Negative	8/12/2019 12:31	Stair Tread	N/A	Concrete	Yellow	Boiler/Mech/Utility	1930	Basement Stairwell	Bent Mountain	Jesse Phillips
199	3.1	mg/cm2	0.5	Positive	8/12/2019 12:32	Wall	East	Concrete	White	Boiler/Mech/Utility	1930	Basement Stairwell	Bent Mountain	Jesse Phillips
200	0.1	mg/cm2	0.5	Negative	8/12/2019 12:40	Framing	West	Metal	White	Exterior	1990	Exterior	Bent Mountain	Jesse Phillips
201	0.1	mg/cm2	0.5	Negative	8/12/2019 12:41	Door	West	Metal	Red	Exterior	1990	Exterior	Bent Mountain	Jesse Phillips
202	0	mg/cm2	0.5	Negative	8/12/2019 12:44	Door	West	Metal	Red	Foyer	1990	First	Bent Mountain	Jesse Phillips
203	0	mg/cm2	0.5	Negative	8/12/2019 12:45	Framing	West	Metal	Blue	Foyer	1990	First	Bent Mountain	Jesse Phillips
204	0.2	mg/cm2	0.5	Negative	8/12/2019 12:45	Framing	West	Metal	Blue	Foyer	1990	First	Bent Mountain	Jesse Phillips
205	0.1	mg/cm2	0.5	Negative	8/12/2019 12:45	Framing	East	Metal	Blue	Foyer	1990	First	Bent Mountain	Jesse Phillips
206	0	mg/cm2	0.5	Negative	8/12/2019 12:46	Door	East	Metal	Red	Foyer	1990	First	Bent Mountain	Jesse Phillips
207	0.6	mg/cm2	0.3	Negative	8/12/2019 12:48	Door Casing	North	Metal	Blue	Foyer	1990	First	Bent Mountain	Jesse Phillips
208	0	mg/cm2	0.4	Negative	8/12/2019 12:49	Door	North	Wood	Varnish/Stain	Foyer	1990	First	Bent Mountain	Jesse Phillips
209	-0.3	mg/cm2	0.5	Negative	8/12/2019 12:50	Wall	South	CMU	White	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
210	-0.1	mg/cm2	0.5	Negative	8/12/2019 12:51	Wall	West	CMU	White	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
211	-0.1	mg/cm2	0.5	Negative	8/12/2019 12:51	Wall	North	CMU	White	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
212	-0.1	mg/cm2	0.5	Negative	8/12/2019 12:52	Wall	East	CMU	White	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
213	0.6	mg/cm2	0.3	Negative	8/12/2019 12:53	Door Casing	East	Metal	Brown	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
214	0.8	mg/cm2	0.2	Negative	8/12/2019 12:53	Floor	N/A	Wood	Varnish/Stain	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
215	0.6	mg/cm2	0.2	Negative	8/12/2019 12:54	Floor	N/A	Wood	White	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
216	0.6	mg/cm2	0.3	Negative	8/12/2019 12:55	Floor	N/A	Wood	Red	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
217	0.6	mg/cm2	0.3	NULL	8/12/2019 12:56	Floor	N/A	Wood	Black	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
218	0.6	mg/cm2	0.3	Negative	8/12/2019 12:57	Floor	N/A	Wood	Black	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
219	0	mg/cm2	0.5	Negative	8/12/2019 12:58	Stair Riser	East	Wood	White	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
220	-0.1	mg/cm2	0.5	Negative	8/12/2019 12:58	Wall	East	CMU	Black	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
221	-0.1	mg/cm2	0.4	Negative	8/12/2019 13:00	Wall	South	Gypsum Board	Black	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
222	0.1	mg/cm2	0.4	Negative	8/12/2019 13:01	Wall	South	Gypsum Board	White	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
223	0	mg/cm2	0.5	Negative	8/12/2019 13:02	Door Casing	South	Metal	Beige	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
224	0.1	mg/cm2	0.5	Negative	8/12/2019 13:03	Ladder Siderail	N/A	Metal	Beige	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
225	0.5	mg/cm2	0.3	Negative	8/12/2019 13:04	Door Casing	West	Metal	Brown	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
226	0.5	mg/cm2	0.4	Negative	8/12/2019 13:04	Door Casing	North	Metal	Brown	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
227	0.1	mg/cm2	0.5	Negative	8/12/2019 13:05	Door	North	Metal	Brown	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
228	0	mg/cm2	0.4	Negative	8/12/2019 13:06	Acoustical Panel	South	Fiberboard or Cementboard	White	Cafetorium	1990	First	Bent Mountain	Jesse Phillips
229	-0.2	mg/cm2	0.5	Negative	8/12/2019 13:07	Wall	South	CMU	White	Kitchen	1990	First	Bent Mountain	Jesse Phillips
230	0	mg/cm2	0.5	Negative	8/12/2019 13:08	Wall	East	CMU	White	Kitchen	1990	First	Bent Mountain	Jesse Phillips
231	-0.2	mg/cm2	0.5	Negative	8/12/2019 13:08	Wall	West	CMU	White	Kitchen	1990	First	Bent Mountain	Jesse Phillips
232	0	mg/cm2	0.5	Negative	8/12/2019 13:09	Wall	North	CMU	White	Kitchen	1990	First	Bent Mountain	Jesse Phillips
233	0.2	mg/cm2	0.4	Negative	8/12/2019 13:10	Ceiling	N/A	Gypsum Board	White	Kitchen	1990	First	Bent Mountain	Jesse Phillips
234	0	mg/cm2	0.5	Negative	8/12/2019 13:10	Floor	N/A	Ceramic Tile	Unpainted	Kitchen	1990	First	Bent Mountain	Jesse Phillips
235	-0.1	mg/cm2	0.4	Negative	8/12/2019 13:12	Door Screen	North	Wood	Red	Kitchen	1990	First	Bent Mountain	Jesse Phillips
236	0.4	mg/cm2	0.4	Negative	8/12/2019 13:12	Door Casing	North	Metal	Off-White	Kitchen	1990	First	Bent Mountain	Jesse Phillips
237	0	mg/cm2	0.5	Negative	8/12/2019 13:13	Door	North	Metal	Off-White	Kitchen	1990	First	Bent Mountain	Jesse Phillips
238	-0.1	mg/cm2	0.4	Negative	8/12/2019 13:15	Shelf	West	Wood	Off-White	Storage	1990	First	Bent Mountain	Jesse Phillips
239	-0.2	mg/cm2	0.5	Negative	8/12/2019 13:18	Wall	North	CMU	Off-White	Male Bathroom	1990	First	Bent Mountain	Jesse Phillips
240	0	mg/cm2	0.4	Negative	8/12/2019 13:20	Panel	N/A	Metal	Off-White	Male Bathroom	1990	First	Bent Mountain	Jesse Phillips
241	0.3	mg/cm2	0.5	Negative	8/12/2019 13:20	Floor	N/A	Ceramic Tile	Blue	Male Bathroom	1990	First	Bent Mountain	Jesse Phillips
242	0.2	mg/cm2	0.5	Negative	8/12/2019 13:21	Floor	N/A	Ceramic Tile	Putty	Male Bathroom	1990	First	Bent Mountain	Jesse Phillips
243	0	mg/cm2	0.5	Negative	8/12/2019 13:21	Floor	N/A	Ceramic Tile	Brown	Male Bathroom	1990	First	Bent Mountain	Jesse Phillips
244	0.1	mg/cm2	0.5	Negative	8/12/2019 13:41	Roof Top	N/A	Metal	Red	Library	1990	Exterior	Bent Mountain	Jesse Phillips
245	0.1	mg/cm2	0.4	Negative	8/12/2019 13:42	Roof Top	N/A	Metal	White	Library Area Parapet Coping	1990	Exterior	Bent Mountain	Jesse Phillips
246	18.9	mg/cm2	0.5	Positive	8/12/2019 13:43	Roof Top	N/A	Metal	Red	Red Flashing "owing" at breezeway	1990	Exterior	Bent Mountain	Jesse Phillips
247	0.2	mg/cm2	0.5	Negative	8/12/2019 13:44	Roof Top	N/A	Metal	Red	Cafetorium	1990	Exterior	Bent Mountain	Jesse Phillips
248	-0.2	mg/cm2	0.4	Negative	8/12/2019 13:45	Fascia	N/A	Wood	White	Cafetorium	1990	Exterior	Bent Mountain	Jesse Phillips
249	-0.1	mg/cm2	0.4	Negative	8/12/2019 13:45	Fascia	N/A	Wood	White	Cafetorium	1990	Exterior	Bent Mountain	Jesse Phillips
250	-0.2	mg/cm2	0.4	Negative	8/12/2019 13:46	Fascia	N/A	Wood	White	Cafetorium	1990	Exterior	Bent Mountain	Jesse Phillips
251	10.4	mg/cm2	0.5	Positive	8/12/2019 13:47	Fascia	N/A	Wood	White	Original Gym Roof Perimeter	1930	Exterior	Bent Mountain	Jesse Phillips
252	0.1	mg/cm2	0.4	Negative	8/12/2019 13:48	Vent	N/A	Metal	Red	Original Gym Roof Perimeter	1930	Exterior	Bent Mountain	Jesse Phillips
253	0.2	mg/cm2	0.5	Negative	8/12/2019 13:48	Vent	N/A	Metal	Red	Original Gym Roof Perimeter	1930	Exterior	Bent Mountain	Jesse Phillips
254	0.7	mg/cm2	0.2	Negative	8/12/2019 13:50	Vent	N/A	Metal	Red	Original Gym Roof Perimeter	1930	Exterior	Bent Mountain	Jesse Phillips
255	0.7	mg/cm2	0.4	NULL	8/12/2019 13:51	Vent	N/A	Metal	Red	Original Gym Roof Perimeter	1930	Exterior	Bent Mountain	Jesse Phillips
256	0.3	mg/cm2	0.5	Negative	8/12/2019 13:52	Vent	N/A	Metal	Red	Original Gym Roof Perimeter	1930	Exterior	Bent Mountain	Jesse Phillips
257	2.2	mg/cm2	0.5	Positive	8/12/2019 13:53	Vent	N/A	Metal	White	Original Gym Roof Perimeter	1930	Exterior	Bent Mountain	Jesse Phillips
258	0	mg/cm2	0.4	Negative	8/12/2019 13:59	Fascia	West	Metal	White	White Flashing at breezeway	1930	Exterior	Bent Mountain	Jesse Phillips
259	0	mg/cm2	0.5	Negative	8/12/2019 13:59	Fascia	West	Metal	White	White Flashing at breezeway	1930	Exterior	Bent Mountain	Jesse Phillips
260	0.2	mg/cm2	0.5	Negative	8/12/2019 14:01	Ceiling	West	Plaster	White	Breezeway Exterior	1930	Exterior	Bent Mountain	Jesse Phillips
261	0	mg/cm2	0.5	Negative	8/12/2019 14:03	Sink Leg	North	Metal	Gray	Kitchen	1990	First	Bent Mountain	Jesse Phillips

Reading #	Concentration	Units	+/-	Result	DateTime	Component	Side	Substrate	Color	Room	Built Date	Floor	Project	Inspector
262	-0.3	mg/cm2	0.5	Negative	8/12/2019 14:12	Wall	South	CMU	Brown	HVAC Room 11	1990	First	Bent Mountain	Jesse Phillips
263	1.1	mg/cm2	0.2	Positive	8/12/2019 14:33	<i>Calibration</i>							Bent Mountain	Jesse Phillips
264	1.1	mg/cm2	0.2	Positive	8/12/2019 14:34	<i>Calibration</i>							Bent Mountain	Jesse Phillips
265	1.1	mg/cm2	0.2	Positive	8/12/2019 14:34	<i>Calibration</i>							Bent Mountain	Jesse Phillips

Performance Characteristic Sheet

EFFECTIVE DATE: December 1, 2015

MANUFACTURER AND MODEL:

Make: ***Heuresis***
Models: ***Model Pb200i***
Source: ***⁵⁷Co, 5 mCi (nominal – new source)***

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Action Level mode

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive)

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

ACTION LEVEL MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm ²)
Results not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated using test results on building components in the HUD archive. Testing was conducted on 146 test samples in November 2015, with two separate instruments running software version 2.1-2 in Action Level test mode. The actual source strength of each instrument on the day of testing was approximately 2.0 mCi; source ages were approximately one year.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm² for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm² at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm². Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

For each substrate type (the 1.02 mg/cm² NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\text{Correction value} = (1\text{st} + 2\text{nd} + 3\text{rd} + 4\text{th} + 5\text{th} + 6\text{th Reading})/6 - 1.02 \text{ mg/cm}^2$$

Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below. Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and the retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF readings.

Compute the average of all ten re-test XRF readings.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

In the Action Level paint test mode, the instrument takes the longest time to complete readings close to the Federal standard of 1.0 mg/cm². The table below shows the mean and standard deviation of actual reading times by reading level for paint samples during the November 2015 archive testing. The tested instruments reported readings to one decimal place. No significant differences in reading times by substrate were observed. These times apply only to instruments with the same source strength as those tested (2.0 mCi). Instruments with stronger sources will have shorter reading times and those with weaker sources, longer reading times, than those in the table.

Mean and Standard Deviation of Reading Times in Action Level Mode by Reading Level

Reading (mg/cm ²)	Mean Reading Time (seconds)	Standard Deviation (seconds)
< 0.7	3.48	0.47
0.7	7.29	1.92
0.8	13.95	1.78
0.9 – 1.2	15.25	0.66
1.3 – 1.4	6.08	2.50
≥ 1.5	3.32	0.05

CLASSIFICATION OF RESULTS:

XRF results are classified as **positive** if they are **greater than or equal** to the stated threshold for the instrument (1.0 mg/cm²), and **negative** if they are **less than** the threshold.

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. The report may be downloaded at <http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997>.

This XRF Performance Characteristic Sheet (PCS) was developed by QuanTech, Inc., under a contract with the XRF manufacturer.

