

Architectural Specifications

NEVADA FAÇADE IMPROVEMENTS

NEVADA, IA 50201

Owned by:
City of Nevada

1209 6th St.
Nevada, IA 50201
Jordan Cook

Email – jcook@cityofnevadaiaowa.org
515 962-5276

ARCHITECT'S PROJECT: NO. 2503

Date Issued:
May 22nd, 2026

ARCHITECT:
RODNEY L. CURTIS, AIA
301 E Court Ave., Unit 105
East Village, Des Moines, Iowa 50309
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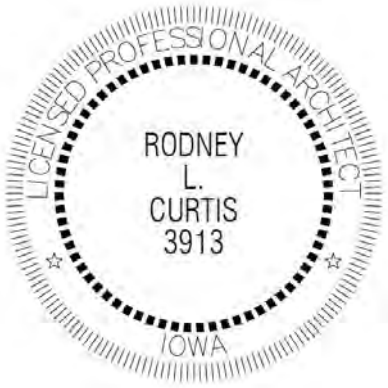
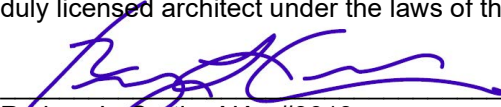


CURTIS ARCHITECTURE & DESIGN P.C.

SEALS PAGE

The following are the certification and seal of the Architect.

Certification and seal are for **Nevada Façade Improvements** located along around the central downtown square of **Nevada, Iowa.**

	I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly licensed architect under the laws of the State of Iowa.  Rodney L. Curtis, AIA #3913 05-22-2026 (date) Pages or sheets covered by this seal: Project Manual Sections 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 21, 22, 23, 24, 25, 26, 27, 28, 31, 32,&33 Date Issued: November 03, 1997

END OF SECTION 00 01 07

00 01 10

TABLE OF CONTENTS

Division .. Section Title	Page(s)

SUPPLEMENTAL REQUIREMENTS

Division 00 – Procurement and Contracting Requirements

00 01 01 Project Title Page.....	1
00 01 07 Seals Page.....	2
00 01 10 Table of Contents	3
00 01 15 List of Drawings	4
00 11 13 Advertisement for Bids.....	5-7
00 20 00 Instructions For Procurement	8-11
00 21 13 Instruction to Bidders	12-13
00 41 00 Bid Form	14-16
00 70 00 Condition of the Contract	17-32
00 73 33 Contract Provisions.....	33-45
00 73 36 Equal Employment Opportunity Requirements	46-56
00 73 43 Wage Rate Requirements	57-60
00 73 46 Davis Bacon Wage Determination.....	60-68
00 73 49 Labor Standards	69-75
00 73 51 Build America Buy America Requirements.....	76-85

Division 01 – General Requirements.....	86-132

Division 02 – Existing Conditions	133-151

Division 03 – Concrete.....	152-165

Division 04 – Masonry	166-190

Division 06 – Wood, Plastics, and Composites	191-202

Division 07 – Thermal and Moisture Protection.....	203-233

Division 08 – Openings.....	234-268

Division 09 – Finishes.....	269-288

Division 26 – Electrical	289-304

Additional Attachments to Specification Booklet –

- A. Mortar Testing Report (Section 02 25 19)
- B. Asbestos Testing Report (Section 02 25 19) (Found at the end of the specification booklet, 118 pages total)
- C. Radon Testing Report (Section 02 25 19) (Found at the end of the specification booklet, 24 pages total)
- D. Lead Testing Report (Section 02 25 19) (Found at the end of the specification booklet, 181 pages total)

END OF SECTION 00 01 10

SECTION 00 01 15

LIST OF DRAWINGS

DRAWING SHEET TITLE

GENERAL

G1.0	DRAWING INDEX, PERSPECTIVES, GENERAL NOTES

ARCHITECTURAL

A1.0	1122 6 th St.
A1.1	1122 6 th St.
A2.0	1110 6 th St.
A2.1	1110 6 th St.
A3.0	1104 6 th St.
A3.1	1104 6 th St.
A4.0	1038 6 th St.
A4.1	1038 6 th St.
A4.2	1038 6 th St.
A5.0	1032 6 th St.
A5.1	1032 6 th St.
A6.0	1028 6 th St.
A6.1	1028 6 th St.
A7.0	532 K Ave.
A7.1	532 K Ave.
A8.0	526 K Ave.
A9.0	526 K Ave.

END OF SECTION 00 01 15

SECTION 00 11 13

NEVADA FAÇADE IMPROVEMENTS - CITY OF NEVADA, IOWA

Notice is hereby given that the Nevada City Clerk will be accepting sealed bids for the **NEVADA FAÇADE IMPROVEMENTS** project now on file in the Office of the City Clerk .

Sealed bids will be received at the Office of the City Clerk of the City of Nevada, Iowa located at 1209 6th St., in said City, until **11:00 A.M., Local Time, Tuesday, June 16th, 2026** for the construction of the project, as described in the Construction Documents.

Sealed proposals will be opened, and bids tabulated at a public meeting, presided over by the Mayor or his designee, in City Council Chambers in City Hall at **11:00 A.M., Local Time, Tuesday, June 16th, 2026**. Bids will be acted upon by the City Council at the hearing scheduled to be held at **6:00 P.M., Local Time, on Monday, June 22nd, 2026** at the City Council Chambers in City Hall at 1209 6th St., Nevada, Iowa 50201.

Copies of said Contract Documents are available at the office of the City Clerk of Nevada for examination by the public. Construction Documents for private use may be viewed or obtained from Curtis Architecture & Design P.C., 301 E Court Ave., Suite #105, East Village, Des Moines, IA 50309. A refundable deposit of Eighty dollars (\$80.00) shall be required for each complete set of documents; which is refundable upon receipt of the Drawings and Specifications, if the Construction Documents are returned in good condition within ten (10) days from the date of letting. Partial or separated documents will not be provided. Electronic documents may be obtained for no cost by request via email from Rod Curtis (Rod.curtis@curtisarchitecture.com) or (jacob@curtisarchitecture.com) with Curtis Architecture & Design P.C. A non-refundable postage and handling fee of Twenty-five dollars (\$25.00) will be added for each set of Construction Documents to be mailed. Special arrangements must be made for overnight mail delivery.

The project will include restoration of the front façade of select downtown buildings around Nevada's historic downtown square. All buildings will require special attention. Work will include, but not be limited to: new storefront window systems, tuckpointing, repainting, structural brick repairs, cement board panels and trim, new upper level windows, new doors, new wood framing, demolition, interior trim work, flooring, drywall, and lighting.

Bidder is encouraged to attend pre-bid conference at 10:00 A.M. local time on Friday, June 5th 2026, at the City Council Chambers, at 1209 6th St., Nevada, Iowa 50201. A tour of the included buildings will follow the conference.

Each bidder shall accompany its bid with bid security as defined in Iowa Code Section 26.8, as security that the successful Bidder will enter into a contract for the work bid upon, and will furnish after Award of Contract a corporate surety bond, in a form acceptable to the Jurisdiction, for the faithful performance of the contract, in an amount equal to 5% of the amount of the Contract. The Bidder's security shall be in the amount fixed in the Instruction to Bidders, and shall be in the form of a cashier's check or a certified check drawn on an FDIC-insured bank in Iowa, or on an FDIC-insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa, or chartered under the laws of the United States; or a bid bond on the form provided in the Contract Documents with corporate surety satisfactory to the Jurisdiction. The bid shall contain no condition except as provided in the Specifications.

In accordance with Iowa statutes, a resident bidder shall be allowed a preference as against a nonresident bidder from a state or foreign country if that state or foreign country gives or requires any preference to bidders from that state or foreign country, including but not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to

bidders or laborers from that state or foreign country. The preference allowed shall be equal to the preference given or required by the state or foreign country in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

The Contractor shall NOT include sales or use taxes in the bid. Pursuant to Iowa Code and Iowa Administrative Code, the Contractor will be authorized to purchase building materials that will be incorporated into real property on this project tax-free. Iowa Construction Sales Tax Exemption Certificates will be issued by the City, which will authorize suppliers of building materials to sell materials exempt from Iowa sales tax and any applicable local option sales tax and school infrastructure local option sales tax to the entity listed on the certificate. Upon award of the Contract, the successful Contractor will be required to provide project information on the contractor, and each subcontractor and supplier requiring the exemption certificates. Contractor will maintain records identifying the materials purchased sales tax exempt and will maintain records verifying the use of said materials on said improvement.

The Contract will be awarded to the lowest responsive, responsible bidder. However, the City reserves the right to reject any or all proposals, re-advertise for new bids, to waive irregularities, and to accept any proposals, which in the opinion of the City Council, is deemed to be in the best interest of the City.

The City of Nevada reserves the right to defer acceptance of any bid for a period of sixty (60) calendar days after receipt of bids, and no bid may be withdrawn during this period.

Each successful Bidder will be required to furnish a corporate surety bond in an amount equal to 100% of its Contract price. Said bond shall be issued by a responsible surety approved by City of Nevada, and shall guarantee the faithful performance of the Contract and the terms and conditions therein contained, and shall guarantee the prompt payment of all material and labor, and protect and save harmless the City of Nevada from claims and damages of any kind caused by the operations of the Contract.

The work on this project shall begin upon receipt of the Notice to Proceed, and be fully completed no later than May 1st, 2027.

CDBG Requirements.

HUD Section 3 - The work to be performed under this Contract is on a project assisted under a program providing direct Federal financial assistance from the Department of Housing and Urban Development, Community Development Block Grant, and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701 V. All contractors and subcontractors must be registered with the Iowa Workforce Development and with the Federal SAM database.

Build America, Buy America Procurement Bid Language: This agreement is for services related to a project that is subject to the Build America, Buy America Act (BABA) requirements under Title IX of the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. 177-58. Absent an approved waiver, all iron, steel, manufactured products, and construction materials used in this project must be produced in the United States, as further outlined by the Office of Management and Budget's Memorandum M-24-02, Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure. Contractor shall include Manufacturer's Certification for BABA requirements for all BABA-covered items to be incorporated into the infrastructure project. Contractor shall comply with BABA requirements, including coordination with manufacturers, distributors, and suppliers to correct deficiencies in any BABA documentation. For any change orders, Contractor shall provide BABA documentation for any new products or materials required by the change.

Prevailing Wages and EEO Requirements. Bidders are advised that all wages are subject to the minimum wages as set forth in a Federal Wage Determination for this project. Bidders are also advised work under this Contract will be required to comply with Labor Standards Contract Provisions and Presidential Executive Order No. 11246.

Published upon order of the City Council of Nevada, Iowa.

Jordan Cook,
City Administrator, Nevada, Iowa

END OF SECTION 00 11 13

SECTION 00 20 00

INSTRUCTIONS FOR PROCUREMENT

1.01 PROJECT OWNER AND LOCATION ADDRESS

- A. City of Nevada
1209 6th St.,
Nevada, Iowa 50201
 - 1. The term Owner is used throughout this document. For this project the owner is the City of Nevada, who has an easement on all participating properties for a set amount of time.
 - 2. The term Building Owner is used to call out the entity who owns the building.
- B. Building Locations
 - 1. 126 N. Howard
 - 2. 107 E. Salem
 - 3. 106 E. Salem
 - 4. 101 E. Salem
 - 5. 102 S. Howard
 - 6. 104 S. Howard
 - 7. 105 S. Howard
 - 8. 101 W. Salem

1.02 GENERAL INFORMATION

- A. You are invited to bid on a Construction Contract including but not limited to the following:
 - 1. **Project Description:** The project will include restoration of the front façade of eight downtown buildings in downtown Nevada, Iowa. The side façade of one building will be included. All buildings will require special attention. Work will include, but not be limited to: new storefront window systems on the side facade, tuckpointing, cement board panels and trim, new upper level windows, and lighting.
 - 2. **Time:** Construction shall begin within 15 calendar days after the execution of the contract by the City Council.
- B. The Owner will receive sealed bids until **11:00 A.M., Local Time, Tuesday, June 16th, 2026** at the City Clerk's Office at 1209 6th St., Nevada, Iowa 50201. Bids received after that time will not be considered. No Telephone, oral, telegraphic, facsimile bids or modifications will be accepted. Bids will be opened publicly.
- C. Sealed proposals will be opened and bids tabulated after **11:00 A.M., Local Time, Tuesday, June 16th, 2026** at the City Council Chambers, 1209 6th St., Nevada, Iowa 50201. The Owner reserves the right to reject any and all bids and to any minor irregularities in any proposal. The Contract will be awarded to the lowest responsive, responsible bidder. However, the City reserves the right to reject any or all proposals, re-advertise for new bids, to waive irregularities, and to accept any proposals, which in the opinion of the City Council, is deemed to be in the best interest of the City.

1.03 BID DOCUMENT AVAILABILITY

- A. Complete sets of bidding documents are available at the office of Curtis Architecture & Design, P.C., 301 E Court Ave., Suite #105, East Village, Des Moines, IA 50309, phone: 641-814-1500 / 641 660-9625 (cell) for a refundable deposit of \$80.00 per set.
 - 1. Deposit will be refunded if all documents are returned in a reusable condition within 10 days after award of the project. If the documents are not returned in a timely manner and in a reusable condition, the deposit will be forfeited. When requesting paper copies include company name, contact, address, phone number, and email, at a minimum. Deposit of the lowest responsible bidder shall not be returned, but additional sets shall be made available at no cost.
 - 2. Bidding documents will be mailed to contractors upon written request and prepayment (by check separate from the deposit check specified above) of

- \$25.00 to cover cost of wrapping, handling and shipping. This is for the contractor's convenience only, and the cost of this service is without refund.
3. Electronic (PDF) documents are available for no cost.
 - a. Curtis Architecture & Design P.C. assumes no responsibility for scaling errors on documents not printed by Curtis Architecture & Design P.C.
 - B. Drawings and Project Manuals will be available for use and inspection at:
 1. Curtis Architecture & Design – 301 E Court Ave., Suite #105, East Village, Des Moines, IA 50309
 2. Nevada City Clerk's Office – 1209 6th St., Nevada, Iowa 50201
 3. Dodge Data and Analytics www.construction.com/projectcenter or MBI of IA
 - C. ALL inquiries are to be directed to Rodney L. Curtis, AIA, at Curtis Architecture & Design, P. C., 301 E Court Ave., Suite #105, East Village, Des Moines, IA 50309, phone: 641-814-1500 / 641 660-9625 (cell). Email; rod.curtis@curtisarchitecture.com or jacob@curtisarchitecture.com
 - D. Except for documents issued to Bidder receiving award, all Bidding Documents shall be returned to the issuing office within 10 days following receipt of Bids.
 - E. Commencement of Work on this Project including site mobilization, on-site construction operations, ordering of materials and general project administration, shall begin immediately upon approval of the contract by the Owner.
 - F. Bidders and Sub-contractors shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 1.04 PRE-BID CONFERENCE**
- A. A Pre-Bid Conference will be included in this project at **11:00 A.M. local time on Friday, May 5th, 2026** at the City Council Chambers, 1209 6th St., Nevada, Iowa 50201. Visitation to the site is strongly recommended by all general contractors bidding this project as to become familiar with the site and surrounding areas.
- 1.05 SUBMISSION OF BID**
- A. Each bid shall be on a copy of the form provided in the Bidding Documents. The Bid shall be enclosed in an envelope, bearing Bidder's name, endorsed as follows:

SEALED BID
“Nevada Façade Improvements”
 - B. Bid Security shall be enclosed in a separate envelope, bearing Bidder's name, endorsed as follows:

BID SECURITY
“Nevada Façade Improvements”
 - C. Bid Security and Performance Bond & Material and Labor Payment Bond:
 1. Each bidder shall accompany its bid with bid security in a separate sealed envelope, in the amount of five percent (5%) of the Bid (including Alternates), as security that the successful bidder will enter into a contract for the work bid upon and will furnish after the award of contract a Performance Bond & Material and Labor Payment Bond, in a form acceptable to the Owner, for the faithful performance of the contract, in an amount equal to one hundred percent of the amount of the proposal, documentation from the contractors bonding company. The bidder's security shall be on the form AIA Document A310™-2010 or a cashier's check, a certified check, or a bank money order drawn on a FDIC insured bank in Iowa or on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States. The bid shall contain no condition except as provided in the specifications. All Proposals and Bid Securities must have original signatures.
 2. Bid security acts as the measure of liquidated damages which the Owner will sustain by failure, neglect, or refusal of Bidder to deliver a signed contract stipulating performance of work in unqualified compliance with Contract

- Documents within ten days after notification of award of contract is given.
3. The Owner will return Bid security when submitted in the form of either a cashier's check or a certified check by any Bidder except the three lowest Bidders within forty-eight hours after opening.
 4. The Owner will return Bid securities (cashier's check, or certified check) within forty-eight hours of executing a contract with the successful Bidder.
 5. Include the cost of bid security in the Bid Amount
 6. If no contract is awarded, all security deposits will be returned.
- D. Notice to Proceed: The Owner will issue a Notice to Proceed after the Owner-Contractor Agreement is signed, and the insurance certificate(s) is received by the Owner. Work shall begin within ten (10) calendar days after the date set forth in the written Notice to Proceed, and shall be completed on or before.
- E. Qualification of Bidders and Bids:
1. An out-of-state bidder, if awarded a contract, will be required to submit evidence of authorization to do business in the State.
- F. An unincorporated out-of-state contractor will be required to furnish evidence of State Department of Revenue's receipt of bond guaranteeing payment of state income taxes on profit from project, for each year during construction.
- G. The Owner reserves the right to waive irregularities and to reject bids in whole or in part. The Bidder shall include all requested Forms and attachments with their submission of the Bid Form; failure to comply may be cause for rejection. No modification of submitted bids will be permitted in any form.
- H. No bid may be withdrawn for a period of 30 days after the date of bid opening.

1.06 BID INELIGIBILITY

- A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, alterations, or irregularities of any kind may, at the discretion of the Owner, be declared unacceptable.
- B. Bid Forms, Appendices, and enclosures that are improperly prepared may, at the discretion of the Owner, be declared unacceptable
- C. Failure to provide security deposit, bonding or insurance requirements may, at the discretion of the Owner, be waived.

CDBG Requirements.

HUD Section 3 –

- A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 75, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.
- C. The contractor agrees to post copies of a notice advising workers of the Contractor's commitments under Section 3 in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

- D. The contractor agrees to provide written notice of employment and contracting opportunities to all known Section 3 Workers and Section 3 Businesses.
- E. The contractor agrees to employ, to the greatest extent feasible, Section 3 workers or provide written justification to the recipient that is consistent with 24 CFR Part 75, describing why it was unable to meet minimum numerical Section 3 Worker hours goals, despite its efforts to comply with the provisions of this clause.
- F. The contractor agrees to maintain records documenting Section 3 Workers that were hired to work on previous Section 3 covered projects or activities that were retained by the contractor for subsequent Section 3 covered projects or activities.
- G. The contractor agrees to post contract and job opportunities to the Opportunity Portal and will check the Business Registry for businesses located in the project area.
- H. The contractor agrees to include compliance with Section 3 requirements in every subcontract for Section 3 projects as defined in 24 CFR part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 75. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 75.
- I. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 75 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 75.
- J. The contractor will certify that they have followed prioritization of effort in 24 CFR part 75.19 for all employment and training opportunities. The contractor will further certify that it meets or exceeds the applicable Section 3 benchmarks, defined in 24 CFR Part 75.23, and if not, shall describe in detail the qualitative efforts it has taken to pursue low- and very low-income persons for economic opportunities.
- K. Noncompliance with HUD's regulations in 24 CFR part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

Build America, Buy America Procurement Bid Language: This agreement is for services related to a project that is subject to the Build America, Buy America Act (BABA) requirements under Title IX of the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. 117-58. Absent an approved waiver, all iron, steel, manufactured products, and construction materials used in this project must be produced in the United States, as further outlined by the Office of Management and Budget's Memorandum M-24-02, Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure. Contractor shall include Manufacturer's Certification for BABA requirements for all BABA-covered items to be incorporated into the infrastructure project. Contractor shall comply with BABA requirements, including coordination with manufacturers, distributors, and suppliers to correct deficiencies in any BABA documentation. For any change orders, Contractor shall provide BABA documentation for any new products or materials required by the change.

Prevailing Wages and EEO Requirements. Bidders are advised that all wages are subject to the minimum wages as set forth in a Federal Wage Determination for this project. Bidders are also advised work under this Contract will be required to comply with Labor Standards Contract Provisions and Presidential Executive Order No. 11246.

END OF SECTION 00 20 00

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

1.01 GENERAL

- A. To be considered, Bids must be made in accordance with these Instructions to Bidders and items included on the Bid Form.

1.02 QUESTIONS

- A. Submit questions pertaining to the Bidding Documents to the Architect, Curtis Architecture & Design, P.C. ALL inquiries are to be directed to Rod Curtis, AIA, at Curtis Architecture & Design, P.C., 3408 Woodland Ave. Suite 302, West Des Moines, Iowa 50266. (641) 660-9625. Email – rod.curtis@curtisarchitecture.com or jacob@curtisarchitecture.com
 - 1. Bidders must carefully examine and compare the Bidding Documents, examine the site and local conditions and at once report any ambiguity, inconsistency, or error discovered. Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Architect for interpretation or correction. Such requests must reach the Architect at least 72 hours prior to bid time.
 - 2. The Architect will issue any and all interpretations, corrections, revisions and amendments to all holders of Bidding Documents in the form of a written addendum. Addendum will be transmitted 72 hours prior to bid time to all who are known by Curtis Architecture to have received a complete set of Bidding Documents.
 - 3. Only those interpretation, corrections, revisions, and amendments confirmed by written addenda are binding. Bidders are cautioned to refrain from including in their bid any interpretations, corrections, revisions, or amendments which are not confirmed by written addenda.
- B. Replies which revise the Bidding Documents will be issued to all Bidding Document holders of record as Addenda to the Bidding Documents and will become a part of the Contract. The Architect and the Owner will not be responsible for oral clarifications.
- C. Questions less than 72 hours prior to bid time will not be answered by Architect. Refer to Section 00 70 00 Part 1.02 EXECUTION, CORRELATION, AND INTENT for questions after this point.

1.03 SUBSTITUTIONS

- A. Substitute products will be considered as follows.
- B. Where Bidding Documents stipulate a specific product, a substitute product will be considered when written request is received by the Architect by date specified as follows:
 - 1. Substitution request will be received **up to 72 hours prior to the bid date**.
 - 2. If circumstances do not permit a request to be submitted **at least 72 hours prior to Bid Date**, the proposed substitution may be submitted after the Contract is awarded only under circumstances set forth in Section 01 60 00. All such Substitution Requests shall include the value of additions to or deductions from the Contract amount, including the value of revisions to other work required to accommodate the substitution.
- C. Each request shall clearly describe the product for which approval is asked, and shall include all data necessary to demonstrate acceptability, as outlined in Section 01 60 00
- D. The Architect will list acceptable products in an Addendum.

1.04 CONTRACT TIME

- A. The Bidder, in submitting a Bid, accepts the completion date stated on the Bid Form for performing the Work, or clearly states another completion date on the bid form.

1.05 BASIS OF BIDS

- A. The Bidder shall include all requested Forms and attachments with their submission of the Bid Form; failure to comply may be cause for rejection.
 - 1. Bid submissions shall include all requested Allowance amounts and Bid Alternate

costs.

- B. Bid shall include all applicable costs associated with providing a free and clear product to the Owner including, but not restricted to, taxes, crating, shipping costs, delivery to site, and installation costs.
- C. Suppliers or Subcontractors shall omit Iowa Sales and Use Taxes as well as Local Option Sales Taxes when applicable, as part of their quotations to the Bidding Contractor. See Section 00 70 00 3.07 Taxes.
- D. **A contingency allowance shall be included in the Contractor's base bid amount as identified in Section 01 20 00 of the project specifications. The contingency allowance amount shall be 5% of the Base Bid (including overhead and general condition, but less alternates) amount unless otherwise specified. Provide an 8% contingency for 1032 & 1038 6th St.**
- E. No modification of submitted bids will be permitted in any form.
- F. **The lowest bidders will have three days after acknowledgment to provide the architect with a schedule of values breaking down costs for each building within the project's scope of work.**

1.06 SUBCONTRACTORS

- A. The bidder is specifically advised that any person, firm or other party to whom it is proposed to award a subcontract under this contract:
 - 1. Must be acceptable to the Owner.
 - 2. Must be registered in the State of Iowa and have contractor's registration number.
 - 3. Must comply with the Bidding Requirements, Conditions of the Contract, and the applicable Technical Specifications and Drawings.

1.07 QUALIFICATION OF BIDDER

- A. The Owner may make such investigations as are deemed necessary to determine the ability of the bidder to perform the work and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligation of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

1.08 METHOD OF AWARD

- A. Bid opening will be a public letting. Bidders are welcome to be in attendance.
- B. The Owner may reject any or all bids, waive irregularities or informalities in any bid. It is the intent of the Owner to award the Contract to the lowest responsible bidder.
- C. Contractor shall be considered awarded when the selected bidder receives a written notice from the Owner.

1.09 INSURANCE

- A. Contract shall include Contractor's Liability Insurance.
- B. Contract shall include Owner's Liability Insurance and Property Insurance (Builder's Risk).

1.10 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

- A. The Agreement for the Work will be written on AIA Form A107 Standard Form of Agreement Between Owner and Contractor, for a Project of Limited Scope.

END OF SECTION 00 21 13

SECTION 00 41 00

(Page 1 of 3)

BID FORM

Pursuant to & in compliance w/ the Bidding Documents relating to the Building Contract for:

Nevada Façade Improvements

Including Addenda Nos. _____, the undersigned, having become thoroughly familiar with the terms and conditions of the proposed Contract Documents prepared by Curtis Architecture & Design, with local conditions affecting performance and costs of the Work at the place where the Work is to be completed, and having fully inspected the site in all particulars, hereby proposes and agrees to fully perform the Work in strict accord with the proposed Contract Documents, including furnishing all labor and materials, and to do all the work required to construct and complete said Work in accordance with the Contract Documents, for the consideration of the sum of money stated below.

Included in Bid Envelope are the signed papers for Section 3 located in this Spec Book under section 00 73 33 Line item #7 _____ (Initials)

BASE BID: \$ _____ **(including all Allowances & Contingency per 00 21 13)**

_____ DOLLARS

ESTIMATED CONSTRUCTION TIMELINE _____

We understand the Owner reserves the right to reject this bid, or to negotiate with the Bidder, when such is deemed by the Owner to be in his best interest, but that this bid shall remain open and not be withdrawn for a period of thirty days from the date prescribed for its opening.

If written notice of the acceptance of this bid is mailed, faxed, or delivered to the undersigned within thirty days after the date set for the opening of this bid, or at any time thereafter before it is withdrawn, the undersigned will sign and return the Contract Agreement; prepared in accord with the Bidding Documents and this bid as accepted.

Notice of acceptance, or request for additional information, may be addressed to the undersigned at the address set forth below.

Name of Contractor: _____ Date: _____

Signature of Bidder: _____

Typed / hand printed name of signer: _____

Note: If bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer, officers, or agent authorized to sign contracts on behalf of the corporation. If bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business address: _____

Email address: _____

Telephone #: _____ Federal Tax ID #: _____

*** INCLUDED ALTERNATES ON NEXT PAGE ***

ALTERNATE LIST & COSTS
(Page 2 of 3)

ALTERNATE #1 – 1122 6th St.: Provide new subfloor, carpet, gyp. bd. ceiling, and lights. See construction documents for details.

Add: _____

Dollars (\$ _____)

**Contractor to submit Section 3 Requirement paperwork
on next page with the Bid Form.
(CONTRACTOR INTENT TO COMPLY)**

**BABA Certification Requirements between the
General Contractor and Architect**

The General Contractor understands that the products specified in this project may not all meet BABA requirements for this project. This includes allowed substitutions provided in each category of this specification.

Curtis Architecture has made a good faith effort, vetting out primary products called out on the drawings. It is however the responsibly of the General contractor to possess a certification of BABA compliance for all products used and bid in this project. Such certifications will be required for each pay request submitted to the Architect.

SECTION 3 – CONTRACTOR INTENT TO COMPLY
(Page 3 of 3)

For Project (insert project name): _____

In (Insert City Name): _____ IEDA Project Number: _____

Contractor Name: _____ hereinafter referred to as “CONTRACTOR.”

Address: _____ City: _____ State: _____ Zip: _____

This form is the CONTRACTOR’s official statement acknowledging their understanding that Section 3 requirements are mandatory for the proposed project which is funded in part with funds from the Department of Housing and Urban Development (HUD). The form also signifies the CONTRACTOR’s intent to comply with the Section 3 requirements as outlined in the plans and specifications, including but not limited to, the intent to utilize Section 3 (low to moderate income) workers and subcontractors where possible and complying with all mandatory reporting related to Section 3 HUD guidelines.

In recognition of the intent to comply the CONTRACTOR indicates their compliance with the following certifications:

- YES If awarded a contract for this HUD-funded project, CONTRACTOR is able to determine employee's hourly wages and addresses.
- YES • NO Is this business a registered Section 3 business with the U.S. Department of Housing and Urban Development? You can search for Section 3 Businesses here: <https://hudapps.hud.gov/OpportunityPortal/>
- YES Willing to provide information on the hours worked by all employees, including Section 3 and Targeted Section 3 employees for this job?
- YES If the need to hire new employees during this job occurs, agree to hire Section 3 qualified employees for those job opportunities presuming all other qualifications are equal with qualified non Section 3 applicants?
- YES If the need to subcontract arises, willing to CONSIDER hiring and subcontracting with a Section 3 business registered with HUD. You can search for Section 3 Businesses here: <https://hudapps.hud.gov/OpportunityPortal/>

The CONTRACTOR estimates that the total hours worked on this project by employees of the CONTRACTOR will be _____.

The CONTRACTOR recognizes that this contracting opportunity is subject to HUD Section requirements (24 CFR Part 75). The CONTRACTOR has read and understands the Section 3 requirements as generally described above and presented in the Section 3 contract language included in the procurement documents for this project (plans and specifications, request for qualification, request for proposals, etc.). If awarded a contract, the CONTRACTOR commits to following Section 3 requirements, as they apply to this project. If awarded a contract for this project, the CONTRACTOR agrees to provide reports to the project's Grant Administrator on a timely basis) regarding Section 3 efforts and accomplishments.

Signature Date

Print Name: _____ Title: _____

END OF SECTION 00 41 00

SECTION 00 70 00

CONDITIONS OF THE CONTRACT

PART 1 - GENERAL PROVISIONS

1.01 BASIC DEFINITIONS

- A. The Work
 - 1. Use of the words "produce" and "provide" where appropriate shall also include "furnish and install."
 - 2. Use of the word "install" unless otherwise noted shall mean "furnish and install".
 - 3. The term "or equal" mean "an equal approved by the Architect".
 - 4. The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and service provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or part of the Project.
- B. The Project
 - 1. The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by other Contractors and by the Owner's own forces including person or entities under separate contracts not administered by the General Contractor.

1.02 EXECUTION, CORRELATION AND INTENT

- A. In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:
 - 1. The Agreement.
 - 2. Addenda, with those of later date having precedence over those of earlier date.
 - 3. The Supplementary Conditions.
 - 4. The General Conditions of the Contract for Construction.
 - 5. Drawings and Specifications.
- B. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
- C. In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by an addendum, the more expensive combination of quality and quantity of Work shall be provided in accordance with the Architect's interpretation at no additional cost and/or time to the owner.
- D. Where a number is listed in the Project Manual (as for gauges, weights, temperatures, amount of time, etc.) the number shall be interpreted as that or better.

1.03 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICES

- A. The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.
- B. The Contractor, Subcontractor, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely

and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractor, Sub-subcontractors and material or equipment suppliers may not use the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

PART 2 - OWNER

2.01 ROLE

- A. The owner shall attend all meetings if desired.
- B. All communication from the owner will include the architect, if architect is employed to oversee construction so not to confuse the job site.
- C. The owner will provide full access to the site for the general contractor and sub-contractors.

2.02 OWNER'S RIGHT TO STOP THE WORK

- A. If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

PART 3 - CONTRACTOR

3.01 GENERAL

- A. The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.
- B. The Contractor shall perform the Work in accordance with the Contract Documents.

3.02 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

- A. Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with the local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.
- B. Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

3.03 CONSTRUCTION SIGN

- A. The Contractor shall provide and install two construction signs with two (2) 4"x4" wolmanized posts and all necessary fasteners:
 - 1. As depicted in Section 01 58 13.
 - 2. Sign with a graphical representation of the finished product, contractors contact information, architect information, and all of the local partners.
- B. Contractor shall provide the Architect with detailed drawings of the final designs before the signs are produced.
- C. When possible, the sign shall be manufactured by a local sign company.
- D. Architect and City shall assist in locating the signs in a manor to provide visibility to the public.

3.04 SUPERVISION AND CONSTRUCTION PROCEDURE:

- A. The Contractor acknowledges that it is the Contractor's responsibility to hire all personnel for the proper and diligent prosecution of the work and the Contractor shall use his/ her best efforts to maintain labor peace for the duration of the Project. In the event of a labor dispute, the Contractor shall not be entitled to any increase in the Contract Sum.
- B. The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.
- C. The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.
- D. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owners-required means, methods, techniques, sequences or procedures.

3.05 LABOR AND MATERIALS

- A. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.
- B. After the contract has been executed, the Architect, Owner, and Contractor shall function as a team to evaluate, review and consider substitution of products in place of those specified under the conditions set forth by the Architect.
- C. By making requests for substitutions the Contractor:
 - 1. represents that the Contractor has personally investigated the proposed substitute product and determined that it is equivalent or superior in all respects to that specified;
 - 2. represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
 - 3. certifies that the cost data presented is complete and includes all related costs under this Contract except redesign costs, and waives all claims for additional costs related to the substitution which subsequently becomes apparent; and;
 - 4. will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
- D. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

3.06 WARRANTY

- A. The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or

permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

3.07 TAXES

- A. The said project is a tax exempt project. The Owner will issue exemption certificates from the Iowa Department of Revenue, as specified in the 701 Iowa Administrative Code, Chapter 19, Rule 19.12. These certificates shall be used by the successful bidder when purchasing materials for the completion of the project.
- B. The contractor shall prepare, (and require all his/ her Subcontractors to prepare), and execute Iowa Sales Tax Exemption Certificate Form 31-014 showing all sales and use taxes paid on material entering permanently into the construction of the project. This report shall be submitted to the Owner immediately upon completion of the work or at any other interval of time as may be necessary

3.08 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

- A. The Contractor shall make application for any payment for the building permit.
- B. Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.
- C. The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful order of public authorities applicable to performance of the Work.
- D. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.
- E. Concealed or Unknown Conditions.
 - 1. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to existing and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons.
- F. If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not

affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made.

3.09 SUPERINTENDENT

- A. The Contractor shall employ a competent superintendent and necessary assistant who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.
- B. The Contractor, as soon as practical after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect required additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.
- C. The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.
- D. The approved Superintendent will work in this position until completion of the Work unless he or she shall no longer be in the Contractor's employ, or shall be released at the request of the Architect and/or Owner.

3.10 SHOP DRAWINGS, PRODUCT DATA/SUBMITTALS, AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- B. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- C. Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- D. Submit five copies of all shop drawings or product data, and one or two samples of products. Verify with Architect for the desired number of samples.
- E. The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.
- F. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
- G. The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.
- H. The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a

Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

- I. Shop Drawings & samples shall be identified by naming the project and owner and/or architect
- J. Shop Drawings shall bear the Contractor's stamped approval and note all required field dimensions.
- K. Submittal by electronic means in addition to hard copy will be acceptable.
- L. Contractor shall use a verification stamp with signature and date to signify his or her approval of shop drawings prior to submitting to the Architect/ Engineer.

3.11 CUTTING AND PATCHING

- A. In addition to such cutting, fitting or patching that may be necessary to fit the several parts of this or other contractor's or subcontractor's work together, any cutting, fitting, or patching of work in place that may be required will be at the expense of the contractor concerned. Each contractor or subcontractor shall determine and be responsible for the proper location of and character of all inserts for hangers, holes, chases and other openings in the construction, and shall give the other interested contractors due and proper notification with regard to same.
- B. Any cutting, fitting, repairing, patching, etc., required whether it be of work in place of executing the initial installation must be done by a craftsperson specially skilled in their respective trades.
- C. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

3.12 CLEANING UP

- A. The General Contractor shall police all daily clean-up assigning clean-up to related subcontract work. All clean-up not done in two (2) days, shall be done by the General Contractor. The project shall be kept neat and free of debris at end of work day.
- B. Besides general project cleaning, Contractor to do the following special cleaning at the end of Work:
 - 1. Remove putty stains, paint, marks, etc., from glass: Wash, polish same inside and outside. Do not scratch glass.
 - 2. Remove mortar and water stains from masonry.
 - 3. Remove marks, stains, fingerprints, other soil, and dirt from completed work.
 - 4. Clean, polish hardware.
 - 5. Remove spots, soil, paint from tile work and wash.
 - 6. Vacuum carpet and mop resilient floors with cleaner recommended by manufacturer.

PART 4 - ARCHITECT

4.01 GENERAL

- A. The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.
- B. Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.
- C. If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

4.02 ADMINISTRATION OF THE CONTRACT

- A. The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the

Architect issues the final Certificate For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

- B. The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.
- C. On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

4.03 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

- A. Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amount.
- B. The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.
- C. The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents.
- D. The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.
- E. Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When make such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for result of interpretations or decisions rendered in good faith. The Architect's decisions on matters relating to aesthetic effect will be final if consistent

with the intent expressed in the Contract Documents.

PART 5 - ADMINISTRATION OF THE CONTRACT

5.01 ARBITRATION.

- A. In addition and prior to arbitration, the parties shall endeavor to settle disputes by mediation under the Construction Industry Mediation Rules of the American Arbitration Association currently in effect.

PART 6 - SUBCONTRACTORS

6.01 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK.

- A. The Contractor shall furnish in writing to the Owner / Architect the names of persons or entities proposed as manufacturers for each of the products and, where applicable, the name of the installing Subcontractor at the time of bidding
- B. The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.
- C. The Contractor shall not change a Subcontractor, person or entity previously selected without written consent of the Owner and Architect
- D. The Owner maintains the list of Subcontractors and main material suppliers in their files and issues a general approval of same after official award of the Contract, subject to the requirements of the Plans, Specifications, and the Contract Documents. Only the Owner may approve deviations from the list of Subcontractors and material suppliers.
- E. Agreements between the Contractor and each Subcontractor (and were appropriate between Subcontractors and Sub-subcontractors) shall also contain provisions that:
 - 1. require submission to the Contractor of applications for payment under each subcontract to which the Contractor is a party, in reasonable time to enable the Contractor to apply for payment;
 - 2. require that all Claims for additional costs, extensions of time, damages for delays or other claims with respect to subcontracted portions of the Work shall be submitted to the Contractor (via any Subcontractor or Sub-subcontractor where appropriate) in sufficient time so the Contractor may comply in the manner provided in the Contract Documents for like Claims by the Contractor against the Owner;
 - 3. waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by property insurance described in Part 11, except such rights as they may have to the proceeds of such insurance held by the Owner as trustee
 - 4. inform each Subcontractor of their rights under Chapter 573, Code of Iowa.

PART 7 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

7.01 WORK DONE BY OWNER:

- A. Currently there is no desire by the owner to partake in construction. This is subject to change. If a change occurs it shall be in writing by the owner to the contractor at which time the contractor shall establish a price increase or decrease.

PART 8 - CHANGES IN THE WORK

8.01 CLAIMS FOR ADDITIONAL COST:

- A. No claim for an addition to the maximum Contract sum shall be considered a valid claim unless a written change order procedure is followed as outlined in this Article. Verbal authorization for changes must be supported by written approval before being considered valid.

8.02 CHANGE ORDERS:

- A. Verify correctness of all measurements at building before ordering materials or doing Work. Notify Architect of any discrepancies before proceeding. No extra compensation allowed for difference between actual measurements and plan dimensions.
- B. For changes in the Work on the stipulated sum methods, the Subcontractor shall submit an itemized list of quantities with the applicable unit costs and extended price for each, in such form and detail as required by the Architect.

1. As a minimum, the detailed breakdown shall include and indicate the items shown below:
 - a. Labor costs, itemized by each trade involved, showing the hourly rates for each and the hours required for the change. Labor rates shall be the same for extra and credit computations and shall be the actual rate paid workmen in accordance with the established management labor agreement.
 - b. Burden on labor, which shall be only the actual costs of mandatory fringe benefits required by established agreements, taxes on labor, worker's or worker's compensation, insurance on labor as affected by payroll, unemployment taxes and insurance, including FICA and FUTA.
 - c. Quantities of materials, equipment and supplies, at their actual cost, with unit costs indicated.
 - d. Allowance for the combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:
 - 1) For the Contractor, for Work performed by the Contractor's own forces, fifteen percent (15%) of the cost.
 - 2) For the Contractor, for Work performed by the Contractor's Subcontractor, five percent (5%) of the amount due the Subcontractor.
 - 3) For each Subcontractor or Sub-subcontractor involve, for Work performed by that Subcontractors of Sub-subcontractor's own forces, fifteen percent (15%) of the cost.
 - 4) For each Subcontractor, for work performed by the Subcontractor's Sub subcontractors, five percent (5%) of the amount due the Sub subcontractor.
 - e. The percentages allowed for overhead and profit shall be deemed to include, and no further addition for:
 - 1) Field and office supervision and administration, including the field superintendent, foreman, field design/drafting, and project coordination.
 - 2) General insurance, except that listed as labor burden.
 - 3) Labor Inefficiency.
 - 4) Lost Time.
 - 5) Use or replacement of tools.
 - 6) Consumables.
 - 7) Shop burden.
 - 8) Equipment rental (other than specifically required additional hoisting equipment, required excavating equipment or similar equipment necessary solely as a result of the change).
 - 9) Engineering and estimating costs.
 - 10) Field Design/Drafting
 - 11) As-Built or Record Drawings.
 - 12) Updating site drawings and specifications.
 - 13) Cost of safety measures (including those imposed by OSHA).

PART 9 - TIME

9.01 DEFINITIONS

- A. The term "day" as used in the Contract Documents shall mean calendar days.

9.02 OCCUPANCY SCHEDULE:

- A. The Owner anticipates substantial completion by date stated by Contractor on bid form.
- B. The Contractor shall update construction schedules, monthly so the Owner may schedule moving, and occupancy.

PART 10 – PAYMENTS AND COMPLETION

10.01 SCHEDULE OF VALUES

- A. Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Application for Payment.

10.02 APPLICATION FOR PAYMENT

- A. At least ten (10) days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such applications shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.
- B. Applications may include requests for payment on accounts of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

10.03 CERTIFICATES FOR PAYMENT

- A. The Architect will, within seven (7) days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part.

10.04 PROGRESS PAYMENTS

- A. After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.
- B. The Contractor shall pay each Subcontractor no later than seven (7) days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.
- C. The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

10.05 SUBSTANTIAL COMPLETION

- A. Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.
- B. The Contractor assumes the responsibility for notifying the Owner and/or Architect in writing when ready for final review of the Work. This letter to the Architect shall include the date after which the Contractor will be ready for final review of the Work. Designated portions of the Work will be reviewed separately.
- C. Final application for payment will not be approved for payment by the Owner or Architect until the following list of documents are provided to the Owner by the Contractor in a close-out document book consisting of a 3-ring binder identified with the name of the project and the date on the cover, and with tabs for each category:
 - 1. General Contractor's name, address, name of contact person, and phone number.
 - 2. Final list of subcontractors including name, address, name of contact person and phone number.
 - 3. List of major equipment suppliers.

4. Executed roof guarantee.
 5. Completed maintenance status sheet.
 6. Contractor's statement of warranty.
 7. Punch list items completed and approved by Owner.
 - D. Provide **one copy** of the close-out document book to the Owner.
- 10.06 FINAL COMPLETION AND FINAL PAYMENT**
- A. Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect find the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable.
 - B. Neither Final Payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect evidence of compliance with all requirements of the Contract Documents: notices, certificates, affidavits, and other requirements to complete obligations under the Contract Documents. Such evidence of compliance shall include, but not be limited to:
 1. instruction of Owner's representatives in the operation of mechanical, electrical, and other systems,
 2. delivery of keys to the Owner with keying schedule,
 3. delivery to the Architect of the Contractor's General Warranty and each written warranty and assignment thereof prepared in duplicate, certificates of inspections, and bonds for the Architect's review,
 4. delivery to the Owner of a Final Waiver of Liens (AIA Document G706 or other form satisfactory to the Owner) covering all Work including that of all Subcontractors, vendors, labor, materials and services, executed by an authorized officer and duly notarized. In addition to the foregoing, all other submissions required by the Specifications, including final construction schedule, shall be submitted to the Architect before approval of Final Payment.

PART 11 - PROTECTION OF PERSONS AND PROPERTY

11.01 SAFETY PRECAUTIONS AND PROGRAMS

- A. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

11.02 SAFETY OF PERSONS AND PROPERTY

- A. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to
 1. employees on the Work and other persons who may be affected thereby;
 2. the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
 3. other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
- B. the Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.
- C. The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.
- D. At all times, protect the excavation, trenches and/or the buildings from damage or rain

water, spring water, ground water, backing up of drains, or sewers, etc. Provide all pumps, equipment, and enclosures to give this protection.

1. Construct and maintain all necessary temporary drainage and do all pumping necessary to keep excavations free of water.
 2. Provide all shoring, bracing, and sheeting as required for safety and for the proper execution of the Work. Remove when work is completed.
 3. At the end of the day's work, all new work likely to be damaged shall be covered. During cold weather protect all work from damage. If low temperatures make it impossible to continue operations safely in spite of cold weather precautions, work shall cease after notifying Owner or Architect. All other protective measures not mentioned above which may be required shall be furnished by the particular contractor responsible for such protection.
- E. When use or storage of explosives or other hazards materials or equipment or unusual methods are necessary, the Contractor shall give the Owner reasonable advance notice.
- F. The Contractor shall designate a responsible member of the Contractor's organizations that the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

11.03 INJURY OR DAMAGE TO PERSON OR PROPERTY

- A. If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

11.04 HAZARDOUS MATERIAL

- A. The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.
- B. Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay or start-up.
- C. The Owner shall not be responsible for materials or substances the Contractor brings on the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials and substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.
- D. If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

11.05 IOWA HAZARDOUS CHEMICAL RISKS RIGHT TO KNOW LAW

- A. Owner's Responsibility. The Owner must provide to the Contractor a list of known hazardous chemicals within the Project Site to which their employees may be exposed and suggestions for appropriate protective measures.

- B. Contractor's Responsibility. Contractor must inform his/ her employees of the Iowa Hazardous Chemical Risks Right to Know Law.
- C. The Contractor must provide to the Owner a list of known hazardous chemicals that they anticipate using on site as well as other pertinent information relating to employee protection. Contractor's Material Safety Data Sheets (MSDS) must be available to the Owner upon request.

11.06 POLLUTION PREVENTION PROCEDURES

- A. The following pollution prevention procedures shall apply to all contractors working on the project.
 - 1. Spills Prevention and Response: The Contractor shall take adequate precautions to prevent spill of hazardous chemicals, oils, and fuels from happening. The Contractor shall have procedures in place to immediately clean up all spills that could occur on the job site or during transportation to and from the job site. Expenses incurred in the spill cleanup shall belong to the contractor. Specifically:
 - a. When liquid hazardous chemicals, oil, or fuels are stored on the job site, the contractor shall provide secondary containment equal or greater than 110% of the volume of the single largest container.
- B. At no time shall any hazardous materials be introduced to the sanitary storm sewer or disposed of on the ground.
- C. Storm water Pollution Prevention Plans and Permits:
 - 1. A storm water pollution prevention plan and discharge permit will be required for construction activities resulting in one acre or more soil disturbance.
 - 2. The General Contractor shall obtain the permit.
 - 3. The General Contractor will be a co-permittee with the Owner. The General Contractor and all Subcontractors shall be responsible for compliance with and fulfilling all requirements of the NPDES General Permit Number 2, including Storm water Pollution Prevention Plan.
 - 4. A copy of the Storm water Pollution Prevention Plan and Notice of Intent will be provided by the Owner. These and the General Contractor's project inspection diary must be kept on-site and presented to Iowa Department of Natural Resources personnel or the Owner, when requested.
 - 5. The Owner will file a "Notice of Discontinuation" upon final stabilization of the disturbed area. The General Contractor will provide the original project inspection diary to the Owner at the completion of the project.
- D. Removal of Regulated Wastes:
 - 1. At the completion of the construction project, the Contractor will be required to remove all waste and unused hazardous chemicals including, but not limited to: solvents, adhesives, paints, and fuels. Said materials shall be properly identified, containerized and, if no longer usable, disposed at the Contractor's expense.

PART 12 - INSURANCE AND BONDS

12.01 CONTRACTOR'S LIABILITY INSURANCE

- A. Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:
 - 1. Premises Operations (including X, C and U coverage's as applicable).
 - 2. Independent Contractor's Operations.
 - 3. Products and Completed Operations.
 - 4. Personal Injury Liability with Employment Exclusion deleted.
 - 5. Contractual, including specified provision for Contractor's obligation.
 - 6. Owned, non-owned and hired motor vehicles.
 - 7. Broad Form Property Damage including Completed Operations.
- B. If the General Liability coverage's are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final

- payment.
- C. The insurance required shall be written for not less than the following limits, or greater if required by law and shall be maintained by insurance carriers acceptable to Owner and Owner's lender:
1. Worker's Compensation:
 - (a) State: Statutory
 - (b) Employer's Liability \$1,000,000 per Accident
\$1,000,000 Disease Policy Limit
 2. Comprehensive or Commercial General Liability (including Premises-Operations; Independent Contractors Protective; Products and Completed Operations; Broad Form Property Damage):
 - (a) Bodily Injury:

\$1,000,000	Each Occurrence
\$2,000,000	Aggregate
 - (b) Property Damage:

\$500,000	Aggregate
 - (c) Products and Completed Operations to be maintained for one year after final payment:

\$500,000	Aggregate
 - (d) Property Damage Liability Insurance shall provide X, C and U coverage.
 - (e) Broad Form Property Damage Coverage shall include Completed Operations.
 3. Contractual Liability:
 - (a) Bodily Injury:

\$1,000,000	Each Occurrence
\$1,000,000	Aggregate
 - (b) Property Damage:

\$500,000	Each Occurrence
\$500,000	Aggregate
 4. Personal injury, with Employment Exclusion deleted:

\$1,000,000	Aggregate
 5. Business Auto Liability (including owned, non-owned and hired vehicles):
 - (a) Bodily Injury:

\$1,000,000	Each Person
\$1,000,000	Each Occurrence
 - (b) Property Damage:

\$500,000	Aggregate
 6. Where the Contractor is using in-house or hired professional design persons involved in some design build situation, such persons shall furnish the following coverage:
Professional design errors and omission coverage liability:
 - (a) \$ 500,000 combined single limits.
 7. Umbrella Excess Liability:

\$1,000,000	Over primary insurance
\$10,000	Retention for self-insured hazards each occurrence
- D. If this insurance is written on a Commercial General Liability Policy form, ACORD form 25S will be acceptable. The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits. Special note shall be made on the certificate indicating that to the fullest extent permitted by law and subject to conditions, limitations and exclusions identified in Paragraph 3.18 – Indemnification, coverage will protect, indemnify, and hold harmless the Owner from and against claims and liabilities for injury to or death of persons or damage to property caused or alleged to have been caused by negligent acts or omissions of the principal Contractor or of his/her subcontractors, including the direct or indirect agents and

employees of the principal Contractor and his/her subcontractors and arising from operations under this Contract.

12.02 OWNER'S LIABILITY INSURANCE

- A. The Contractor shall purchase and maintain insurance covering the Owner's contingent liability for claims which may arise from operations under this Contract.

12.03 PROPERTY INSURANCE

- A. Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a preplacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Owner has an insurable interest in the property to be covered, whichever is later. This insurance shall include interest of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.
- B. Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.
- C. If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractor and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.
- D. If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.
- E. This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.
- F. Partial occupancy or use shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.
- G. This property insurance is written with a deductible of \$1,000 per occurrence and a deductible aggregate of \$1,000.

12.04 PERFORMANCE BOND AND PAYMENT BOND:

- A. **The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising there under. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be paid for by the Owner. The amount of each bond shall be equal to 100 percent of the Contract sum.**
- B. The Contractor shall deliver the required bonds to the Owner not later than three days following the date the Agreement is entered into, or if the Work is to be commenced prior

thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.

PART 13 – FEDERAL WAGE RATES

13.01 WAGE RATES

- A. Federal Wage Rates are applicable to this project. See Section 00 73 43
 - 1. No less than the rates listed in the published Wage Rate Schedule shall be paid to an individual for performing work in the classification indicated regardless of any contractual relationship that may exist between such individuals and the Contractor or Subcontractor.
 - 2. Any wage paid for classification of work not included in Wage Rate Schedule shall be not less than applicable wage rate determinations. When determination has been made after employment of an individual, such minimum rate shall be retroactive to time of initial employment.
 - 3. Specified wage rates are minimum. Contractor may pay rates in excess of applicable rates. The owner will consider no claims resulting from payment by Contractor of rates in excess of minimum rate scheduled.
 - 4. All claims, disputes pertaining to classification of labor employed on the Project shall be decided by the appropriate agency as required by law.
 - 5. Contractor shall post in a conspicuous location on the Project Site, a schedule showing all determined minimum wage rates for the various classes of laborers, mechanics and operators working on the Project, and all deductions, if any, required by law to be made from wages actually earned.
 - 6. Wage rates apply to Work in all Sections of the Project Manual.

ARTICLE 14 - MISCELLANEOUS PROVISIONS

14.01 EQUAL OPPORTUNITY

- A. The Contractor shall maintain policies of employment as follows:
 - 1. The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.
 - 2. The Contractor and the Contractor's Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, or national origin.

ARTICLE 15 - TERMINATION OR SUSPENSION OF THE CONTRACT

15.01 TERMINATION BY THE OWNER FOR CONVENIENCE

- A. The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.
- B. Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall:
 - 1. Cease operations as directed by the Owner in the notice;
 - 2. Take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
 - 3. Except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing Subcontracts and purchase orders and enter into no further Subcontracts and purchase orders.

END OF SECTION 00 70 00

SECTION 00 73 33

CONTRACT PROVISIONS

ALL CONTRACTS

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 75, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.

C. The contractor agrees to post copies of a notice advising workers of the Contractor's commitments under Section 3 in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to provide written notice of employment and contracting opportunities to all known Section 3 Workers and Section 3 Businesses.

E. The contractor agrees to employ, to the greatest extent feasible, Section 3 workers or provide written justification to the recipient that is consistent with 24 CFR Part 75, describing why it was unable to meet minimum numerical Section 3 Worker hours goals, despite its efforts to comply with the provisions of this clause.

F. The contractor agrees to maintain records documenting Section 3 Workers that were hired to work on previous Section 3 covered projects or activities that were retained by the contractor for subsequent Section 3 covered projects or activities.

G. The contractor agrees to post contract and job opportunities to the Opportunity Portal and will check the Business Registry for businesses located in the project area.

H. The contractor agrees to include compliance with Section 3 requirements in every subcontract for Section 3 projects as defined in 24 CFR part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 75. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 75.

I. The contractor will certify that any vacant employment positions, including training positions, that are filled

(1) after the contractor is selected but before the contract is executed, and
(2) with persons other than those to whom the regulations of 24 CFR part 75 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 75.

J. The contractor will certify that they have followed prioritization of effort in 24 CFR part 75.19 for all employment and training opportunities. The contractor will further certify that it meets or exceeds the applicable Section 3 benchmarks, defined in 24 CFR Part 75.23, and if not, shall describe in detail the qualitative efforts it has taken to pursue low- and very low-income persons for economic opportunities.

K. Noncompliance with HUD's regulations in 24 CFR part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

Section 3 Business Concerns are encouraged to respond to this proposal. A Section 3 Business Concern is one that satisfies one of the following requirements:

1. It is at least 51 percent owned and controlled by low- or very low-income persons;
2. Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 Workers*; or
3. It is a business at least 51 percent owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

* A Section 3 Worker is defined as any worker who currently fits or when hired within the past five years fit at least one of the following categories, as documented:

1. The worker's income for the previous or annualized calendar year is below the applicable income limit established by HUD;
2. The worker is employed by a Section 3 business concern; or
3. The worker is a YouthBuild participant.

Businesses that believe they meet the Section 3 criteria are encouraged to register as a Section 3 Business through HUD's website:

<https://portalapps.hud.gov/Sec3BusReg/BRegistry/RegisterBusiness>

SECTION 3 – CONTRACTOR INTENT TO COMPLY

For Project (insert project name): _____

In (Insert City Name): _____ IEDA Project Number: _____

Contractor Name: _____ hereinafter referred to as “CONTRACTOR.”

Address: _____ City: _____ State: _____ Zip: _____

This form is the CONTRACTOR’s official statement acknowledging their understanding that Section 3 requirements are mandatory for the proposed project which is funded in part with funds from the Department of Housing and Urban Development (HUD). The form also signifies the CONTRACTOR’s intent to comply with the Section 3 requirements as outlined in the plans and specifications, including but not limited to, the intent to utilize Section 3 (low to moderate income) workers and subcontractors where possible and complying with all mandatory reporting related to Section 3 HUD guidelines.

In recognition of the intent to comply the CONTRACTOR indicates their compliance with the following certifications:

- YES If awarded a contract for this HUD-funded project, CONTRACTOR is able to determine employee’s hourly wages and addresses.
- YES • NO Is this business a registered Section 3 business with the U.S. Department of Housing and Urban Development? You can search for Section 3 Businesses here: <https://hudapps.hud.gov/OpportunityPortal/>
- YES Willing to provide information on the hours worked by all employees, including Section 3 and Targeted Section 3 employees for this job?
- YES If the need to hire new employees during this job occurs, agree to hire Section 3 qualified employees for those job opportunities presuming all other qualifications are equal with qualified non Section 3 applicants?
- YES If the need to subcontract arises, willing to CONSIDER hiring and subcontracting with a Section 3 business registered with HUD. You can search for Section 3 Businesses here: <https://hudapps.hud.gov/OpportunityPortal/>

The CONTRACTOR estimates that the total hours worked on this project by employees of the CONTRACTOR will be _____.

The CONTRACTOR recognizes that this contracting opportunity is subject to HUD Section requirements (24 CFR Part 75). The CONTRACTOR has read and understands the Section 3 requirements as generally described above and presented in the Section 3 contract language included in the procurement documents for this project (plans and specifications, request for qualification, request for proposals, etc.). If awarded a contract, the CONTRACTOR commits to following Section 3 requirements, as they apply to this project. If awarded a contract for this project, the CONTRACTOR agrees to provide reports to the project’s Grant Administrator on a timely basis) regarding Section 3 efforts and accomplishments.

Signature Date

Print Name: _____ Title: _____

SECTION 3 WORKER CERTIFICATION

A Section 3 Worker seeking preference in training and employment must certify eligibility (as defined in Section 75.5) by residency and household income. Please certify below and submit documentation, if available and applicable, to the recipient contractor or subcontractor.

NOTE FOR GRANT ADMINISTRATORS: Prior to a worker completing this form, worker will need to know if their employer is a Section 3 business AND if they live within the defined project service area.

I, _____ (Name) _____, am a legal resident of _____ (Community name) _____

My permanent address is:

Please review and check all of the following that applied during the past 5 years:

- ☐ My individual annual income was below this amount: \$ Insert 80% county figure for household of 1
- ☐ I am employed by a Section 3 business.
- ☐ I am/ was a YouthBuild participant.
- ☐ I live within 1 mile of the project site for this federally funded project OR I have been informed I live within an allowed project service area.
- ☐ None of the above apply to me

I affirm that the information contained in this report, including the above statements, are true, complete, and correct to the best of my knowledge and belief. Any false statements made knowingly and willfully may subject the signer to penalties under Section 1010 of Title 18 of the United States Code.

Worker's signature

Date

Section 3 Business Certification

- To be completed by the business claiming Section 3 business status.

All contracts and subcontracts awarded on Section 3 covered projects must be reported in aggregate on the Section 3 Summary Report. For all businesses reported as being Section 3 Businesses, documentation of their status must be retained in the project files. IEDA considers this form adequate documentation of Section 3 status. Projects that receive \$200,000 or more in HUD funds are "Section 3 projects". Contractors are required to report on all contracts they make both with Section 3 Businesses and with businesses that are not Section 3 Businesses. This form is a tool to determine and document the Section 3 Business status. Documentation of the status of Section 3 Businesses should be retained in the project files.

Business being certified:

Company:

Address:

Project information:

Project Name:

Project Address:

Section 3 determination

1. Is your business owned (51% or more) by individuals whose individual incomes are NO GREATER THAN 80% of Area Median Income (AMI)* OR owned by individuals that are current public housing residents or current residents of Section 8-assisted housing?

**Please reference <https://www.iowaeda.com/cdbg/management-guide/> (under recipient income requirements and census information) to determine if employee is less than 80% of the current area median income.*

() Yes () No

2. Within the last three months, have 75% of all labor hours performed been performed by individuals whose individual incomes are no greater than 80% of Area Median Income (AMI)?

() Yes () No

If any of the questions above are marked "yes", the business qualifies as a Section 3 business.

I certify that the above statements are true, complete, and correct to the best of my knowledge and belief.

Signature: _____

Print Name: _____ Date: _____

covered construction and non-construction contracts to Section 3 Businesses.

Please complete the following:

1. If awarded a contract for this CDBG funded project, do you anticipate being able to determine employees' hourly wages and addresses?

☐ Yes ☐ No

If yes, please estimate the number of hours to be completed on the project by all workers: _____

2. Is your business a Section 3 Business? ☐ Yes ☐ No

3. Is the bidder willing to consider hiring Section 3 Workers for future employment opportunities that are a direct result of this CDBG funded project?

☐ Yes ☐ No

4. Is the bidder willing to consider subcontracting with Section 3 Businesses for this project?

☐ Yes ☐ No

5. Is the bidder willing to provide information on hours worked by Section 3 Workers and Targeted Section 3 Workers on this project?

☐ Yes ☐ No

I understand that this contracting opportunity is subject to HUD Section 3 requirements (24 CFR Part 75). I have read and understand the Section 3 requirements as generally described above and presented in the Section 3 contract language included in the procurement documents for this project. If awarded a contract, the business commits to following Section 3 requirements, as they apply to this project. If awarded a contract for this project, the business agrees to provide reports to (insert City/County) on Section 3 efforts and accomplishments.

Name of Contractor/Subcontractor Address

Print Name

Title

Signature

Date

ALL CONSTRUCTION CONTRACTS IN EXCESS OF \$2,000

Federal Labor Standards

In addition to the preceding provisions, all construction contracts in excess of \$2,000 must include the Federal Labor Standards Provisions (verbatim) found in Appendix 2 under Required Contract Provisions. (Housing rehabilitation contracts of less than 8 units are excluded from this requirement.)

Federal Labor Standards Provisions (verbatim) found in Appendix 2, including: § Davis-Bacon and Related Acts

- Contract Work Hours and Safety Standard Act
- Copeland Anti-kickback Act

CDBG REQUIRED LANGUAGE FOR CONTRACTS



ADDENDUM II. SUPPLEMENTAL FEDERAL REQUIREMENTS AND WORKER NOTIFICATIONS

- ❖ **Current Certified Payroll Form & Certification (DOL WH-347)**
<https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf>
- ❖ **Federal Labor Standards Complaint Intake Form:**
<https://www.hud.gov/sites/dfiles/OCHCO/documents/4731.pdf>
- ❖ **Record of Employee Interview Form**
<https://www.hud.gov/sites/dfiles/OCHCO/documents/11.pdf>
- ❖ **Job Site Posters & Federal Labor Standards Provisions:**
 - WHD 1321 – Employee Rights Poster
 - English: <https://www.osha.gov/Publications/OSHA3165.pdf>
 - Spanish: <https://www.osha.gov/Publications/OSHA3167.pdf>
 - OSHA Job Safety & Health
 - English: https://www.eeoc.gov/sites/default/files/migrated_files/employers/eeoc_s_elf_print_poster.pdf
 - Spanish: https://www.eeoc.gov/sites/default/files/migrated_files/employers/eeoc_s_elf_print_poster_spanish.pdf
 - OFCCP Equal Opportunity – Know Your Rights
 - English: https://www.eeoc.gov/sites/default/files/2023-06/22-088_EEOC_KnowYourRights6.12.pdf
 - Spanish: https://www.eeoc.gov/sites/default/files/2023-06/22-088_EEOC_KnowYourRightsSp6.12.pdf
- ❖ **HUD Form 928.1 Equal Housing Opportunity**
 - English: <https://www.hud.gov/sites/documents/928.1.PDF>
 - Spanish: <https://www.hud.gov/sites/documents/SPANISH.PDF>

The undersigned acknowledges that these documents are required to be made available to all workers on the jobsite:

Contractor Signature

Date

Contractor Printed Name

Title

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.



Document date: 1/02/2026



MIPA Contractor Information Sheet:

Contractor Name: _____ Prime ____ Sub ____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____

Email: _____

Person responsible for payroll and contact: _____

Iowa Contractor Registration Number: _____

Federal Tax ID number: _____

DUNS Number: _____

Number of Employees working on the project: _____

Contract \$ value: _____ Trade Type: _____

Brief Description of the work for this contract: _____

Owner Name: _____

Do you have any workers in a recognized apprenticeship program? **Y/N**

Minority Owned Business? **Y/N** Woman Owned Business? **Y/N**

Hispanic Owned Business? **Y/N**

Ethnicity of owner, circle all that apply:

- White
- Black/African American
- Asian
- American Indian/Alaskan Native
- Native Hawaiian/Other Pacific Islander
- American Indian/Alaskan Native & White
- Asian & White
- Black/African American & White
- American Indian/Alaskan Native & Black African American
- Other Multi-Racial

**Return to: Andrew Collings, Mid-Iowa Planning Alliance, 939 Office Park Road, suite 306 West
Des Moines, Iowa 50265 – (P) 515 304-3524 Email at – acollings@midiowaplanning.org**

END OF SECTION 00 73 33

EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

EMPLOYEE RIGHTS UNDER THE DAVIS-BAC

FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL FEDERALLY ASSISTED CONSTRUCTION PROJECTS

PREVAILING WAGES

You must be paid not less than the wage rate listed in the contract with this Notice for the work you perform.

OVERTIME

You must be paid not less than one and one-half times your regular rate of pay for hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT

Contract payments can be withheld to ensure workers receive their wages. If overtime pay requirements are violated, liquidated damages may apply. If overtime pay requirements are violated, clauses allow contract termination and debarment of contractor up to three years. A contractor who falsifies certified payroll records may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES

Apprentice rates apply only to apprentices properly registered in an approved apprenticeship program.

DERECHOS DEL EM

BAJO LA LEY DAVIS-B

PARA OBREROS Y MEC

EMPLEADOS EN PROYE

CONSTRUCCIÓN FEDER

ASISTENCIA FEDE

SALARIOS PREVALECIENTES

No se le puede pagar menos de la tasa de pago indicada en la D
este Aviso para el trabajo que Ud. desempeña.

SOBRETIEMPO

Se le ha de pagar no menos de tiempo y medio de su tasa básico
en exceso de 40 en una semana laboral. Existen pocas excepcio

CUMPLIMIENTO

Se pueden retener pagos por contratos para asegurarse que los
de sobretiempo debidos, y se podría aplicar daños y perjuicios s
pago de sobretiempo. Las cláusulas contractuales de Davis-Bac
de contratistas para efectuar futuros contratos federales hasta tr
los registros certificados de las nóminas de pago o induzca devic
procesamiento civil o criminal, multas y/o encarcelamiento.

APRENDICES

Las tasas de aprendices sólo se aplican a aprendices correctam
estatales aprobados.

PAGO APROPIADO

Si Ud. no recibe el pago apropiado, o precisa de información adi
póngase en contacto con el Contratista Oficial que aparece abaj

EXHIBIT VIII-U

E E O

EQUAL EMPLOYMENT OPPORTUNITY

The organization named herein receives Federal financial assistance from the U.S. Department of Housing & Urban Development.

Organization Name and Address:

In its activities so assisted, the organization is prohibited from discriminating against any employee or applicant from employment because of race, color, sex, national origin, religion, or handicap in connection.

- employment, upgrading, demotion, or transfer
- recruitment or recruitment advertising
- layoff or termination
- rate of pay or compensation other forms of compensation
- selection for training, including apprenticeship

Requests for information and complaints of discrimination may be addressed to:

or

This notice must be posted in conspicuous places available to employees and applicants for employments.

U.S. Department of Housing and Urban Development, Washington, D.C. 20410
HUD 901 (5-80). Previous edition is obsolete

VIII-U-1

(Revised 4/01)



Job Safety IT'S TH

All workers have the right to:

- A safe workplace.
- Raise a safety or health concern with your employer or OSHA, or report a work-related injury or illness, without being retaliated against.
- Receive information and training on job hazards, including all hazardous substances in your workplace.
- Request an OSHA inspection of your workplace if you believe there are unsafe or unhealthy conditions. OSHA will keep your name confidential. You have the right to have a representative contact OSHA on your behalf.
- Participate (or have your representative participate) in an OSHA inspection and speak in private to the inspector.
- File a complaint with OSHA within 30 days (by phone, online or by mail) if you have been retaliated against for using your rights.
- See any OSHA citations issued to your employer.
- Request copies of your medical records, tests that measure hazards

Employers must:

- Provide employees with information about recognized hazards against an employee's rights under the health and safety with OSHA, or injury or illness.
- Comply with all OSHA standards.
- Report to OSHA any fatalities within 30 days, hospitalization of an employee within 3 days, or loss of consciousness.
- Provide required safety training in a language and format workers understand.
- Prominently display OSHA posters in the workplace.
- Post OSHA citations in a conspicuous place of the workplace.

FREE ASSISTANCE
Information about hazards is available for small and medium-sized employers, through OSHA's free programs in every language.



Seguridad y Sa ¡ES LA

Todos los trabajadores tienen el derecho a:

- Un lugar de trabajo seguro.
- Decir algo a su empleador o la OSHA sobre preocupaciones de seguridad o salud, o reportar una lesión o enfermedad en el trabajo, sin sufrir represalias.
- Recibir información y entrenamiento sobre los peligros del trabajo, incluyendo sustancias tóxicas en su sitio de trabajo.
- Pedirle a la OSHA inspeccionar su lugar de trabajo si usted cree que hay condiciones peligrosas o insalubres. Su información es confidencial. Algún representante suyo puede comunicarse con OSHA a su nombre.
- Participar (o su representante puede participar) en la inspección de OSHA y hablar en privado con el inspector.
- Presentar una queja con la OSHA dentro de 30 días (por teléfono, por internet, o por correo) si usted ha sufrido represalias por ejercer sus derechos.
- Ver cualesquieras citaciones de la OSHA emitidas a su empleador.
- Pedir copias de sus registros médicos, pruebas que miden los peligros en el trabajo, y registros de lesiones y enfermedades relacionadas con el trabajo.

Los empleadores:

- Proveer a los trabajadores un lugar libre de peligros y no discriminar contra ellos por haber ejercido sus derechos, o por haber hablado sobre seguridad o salud a usted o a otro trabajador, o por haber sufrido una lesión o enfermedad.
- Cumplir con todas las reglas de la OSHA.
- Reportar a la OSHA lesiones o enfermedades relacionadas con el trabajo que resulten en la pérdida de un día de trabajo o la pérdida de un día de hospitalización.
- Proporcionar el idioma que entiendan a todos los trabajadores y un vocabulario que entiendan.
- Mostrar claramente los peligros en el lugar de trabajo.
- Mostrar las citaciones de la OSHA en el lugar de la violación.

Los empleadores pueden recibir ASIs para identificar y corregir los peligros, a través de una multa, a través de una multa, a través de una multa, apoyados por la OSHA.

Employment Opportunity is THE LAW

ernments, Educational Institutions, Employment Agencies and Labor Organizations
es of most private employers, state and local governments, educational institutions,
organizations are protected under Federal law from discrimination on the following bases:

GENETICS

protects applicants and
charge, pay, fringe benefits,
employment, on the basis
tional origin. Religious
ate an employee's religious
ndue hardship.

of 1990, as amended, protect
liability in hiring, promotion,
, referral, and other
is not making reasonable
use of an otherwise qualified

Title II of the Genetic Information Nondiscrimination Act of 2008 protects applicants
and employees from discrimination based on genetic information in hiring,
promotion, discharge, pay, fringe benefits, job training, classification, referral, and
other aspects of employment. GINA also restricts employers' acquisition of genetic
information and strictly limits disclosure of genetic information. Genetic information
includes information about genetic tests of applicants, employees, or their family
members; the manifestation of diseases or disorders in family members (family
medical history); and requests for or receipt of genetic services by applicants,
employees, or their family members.

RETALIATION

All of these Federal laws prohibit covered entities from retaliating against a
person who files a charge of discrimination, participates in a discrimination

Employers Holding Federal Contracts or Subcontracts

employees of companies with a Federal government contract or subcontract affected under Federal law from discrimination on the following bases:

three years of discharge or release from active duty), other protected veterans (veterans who served during a war or in a campaign or expedition for which a campaign badge has been authorized), and Armed Forces service medal veterans (veterans who, while on active duty, participated in a U.S. military operation for which an Armed Forces service medal was awarded).

discrimination on the basis of race, color, sex, religion, national origin, or ancestry, or on the basis of affirmative action to prevent.

RETALIATION

Retaliation is prohibited against a person who files a complaint of discrimination, participates in an OFCCP proceeding, or otherwise opposes discrimination under these Federal laws.

Any person who believes a contractor has violated its nondiscrimination or affirmative action obligations under the authorities above should contact immediately:

The Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210, 1-800-397-6251 (toll-free) or (202) 693-1337 (TTY). OFCCP may also be contacted by e-mail at OFCCP-Public@dol.gov, or by calling an OFCCP regional or district office, listed in most telephone directories under U.S. Government, Department of Labor.

OFCCP protects qualified individuals from discrimination in hiring, promotion, compensation, referral, and advancement. It includes not making contractual limitations of an applicant or employee, that Federal contractors take affirmative action to prevent qualified individuals from being excluded from the executive level.

OFCCP

of 1974, as amended, 38 U.S.C. 4212. OFCCP has the authority to take affirmative action to employ and advance in employment separated veterans (within

For Activities Receiving Federal Financial Assistance

de Oportunidades en el Empleo es

LA LEY

es y estatales, instituciones educativas, agencias de empleo y organizaciones laborales

oría de los empleadores privados, autoridades locales y estatales, instituciones educativas, agencias de empleo
gidos conforme a la ley federal contra la discriminación por cualquiera de los siguientes motivos:

GENÉTICA

El Título II de la Ley contra la Discriminación por Información Genética de 2008 (GINA) protege a los solicitantes de empleo y a los empleados contra la discriminación con basada en información genética, en la contratación, ascenso, despido, sueldo, beneficios adicionales, capacitación laboral, clasificación, referencia, y otros aspectos del empleo. GINA también restringe la adquisición de la información genética por parte de los empleadores y limita estrictamente la divulgación de la información genética. La información genética incluye la información sobre las pruebas genéticas de los solicitantes de empleo, los empleados o sus familiares; la manifestación de enfermedades o desórdenes en los familiares (historial médico familiar); y las solicitudes o recibo de servicios genéticos por los solicitantes de empleo, los empleados o sus familiares.

REPRESALIA

Todas estas leyes federales prohíben a las entidades cubiertas tomar represalias contra

miendas, protege a los
ación en la contratación,
n laboral, clasificación,
or, religión, sexo (incluido
ncluye el no realizar los
zado, cuando tales arreglos

scapacidades de 1990, y
tra la discriminación por
o, beneficios adicionales,
es del empleo. La

dores que tengan contratos o subcontratos federales

s empleados de compañías con un contrato o subcontrato gubernamental federal están
ne a las leyes federales contra la discriminación por los siguientes motivos:

minación en el trabajo por
: la aplicación de acción
(todos los aspectos del
del servicio recientemente (dentro de los tres años dados de baja del servicio activo),
otros veteranos protegidos (quienes hayan prestado el servicio militar en una guerra o en
una campaña o expedición para la cual se haya autorizado una insignia de campaña), y los
veteranos con medallas del Servicio de las Fuerzas Armadas (veteranos quienes, mientras
se encontraban en el servicio activo, participaron en una operación militar de EE.UU.
para la cual se les otorgó una medalla del Servicio de las Fuerzas Armadas).

REPRESALIA

Se prohíben las represalias contra una persona que presente un cargo de discriminación,
participe en un procedimiento de la Oficina de Programas de Cumplimiento de Contratos
Federales (OFCCP), o quien se oponga a la discriminación de conformidad con estas
leyes federales.

Toda persona quien considere que un contratista ha incumplido sus obligaciones
antidiscriminatorias o de acción afirmativa conforme a las autoridades antes indicadas,
debe contactar de inmediato a:

The Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of
Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210, 1-800-397-6251 (número
gratuito) o (202) 693-1337 (número TTY). También puede contactar a la OFCCP por el
correo electrónico OFCCP-Public@dol.gov, o llamando a una oficina distrital o regional
de la OFCCP, la cual puede encontrar en la mayoría de los directorios telefónicos
en la sección U.S. Government (Gobierno de los EE.UU.), Department of Labor
(Departamento del Trabajo).

ZAS ARMADAS Y NTE Y DE OTRO STATUS

etnam de 1974, y sus
y exige la acción afirmativa
dos, veteranos separados

U. S. Department of Housing and Urban Development



**EQUAL HOUSING
OPPORTUNITY**

**We Do Business in Accordance With the
Housing Law**

(The Fair Housing Amendments Act of 1988)

**It is illegal to Discriminate Against
Because of Race, Color, Religion,
Handicap, Familial Status, or Nat**



**In the sale or rental of housing or
residential lots**



**In the p
brokers**



**EQUAL HOUSING
OPPORTUNITY**
IGUALDAD DE OPORTUNIDADES
EN LA VIVIENDA

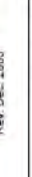
**Nuestras prácticas de negocios cumplen
de equidad en la vivienda**
(Enmienda a la ley de Equidad en la vivienda)

**Es ilegal discriminar contra ning
causa de su raza, color, relig
discapacidad, situación familiar u**

- En la venta o el alquiler de viviendas o lotes residenciales
- En la publicidad relacionada con
- En la compra o el alquiler de viviendas o lotes residenciales
- En la publicidad relacionada con

END OF SECTION 00 73 36

WAGE RATE REQUIREMENTS



U.S. Department of Labor
Wage and Hour Division

PAYROLL
(For Contractor's Optional Use; See Instructions at www.dol.gov/esa/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.



WHD
Wage and Hour Division
Rev. Dec. 2008

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐

ADDRESS _____

OMB No. 1235-0008
Expires: 01/01/2015

PROJECT OR CONTRACT NO. _____

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐

ADDRESS _____

OMB No. 1235-0008
Expires: 01/01/2015

PROJECT OR CONTRACT NO. _____

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ADDRESS _____

OMB No. 1235-0008
Expires: 01/01/2015

(4) That: (a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS ☐ in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(e) EXCEPTIONS

[illegible]

**U.S. Department of Labor
Wage and Hour Division
Instructions for Completing Payroll Form, WH-347**

General: Form WH-347 has been made available for the convenience of contractors and subcontractors required by their Federal or Federally-aided construction-type contracts and subcontracts to submit weekly payrolls. Properly filled out, this form will satisfy the requirements of Regulations, Parts 3 and 5 (29 C.F.R., Subtitle A), as to payrolls submitted in connection with contracts subject to the Davis-Bacon and related Acts.

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) requires contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) Regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Under the Davis-Bacon and related Acts, the contractor is required to pay not less than prevailing wage, including fringe benefits, as predetermined by the Department of Labor. The contractor's obligation to pay fringe benefits may be met either by payment of the fringe benefits to bona fide benefit plans, funds or programs or by making payments to the covered workers (laborers and mechanics) as cash in lieu of fringe benefits.

This payroll provides for the contractor to show on the face of the payroll all monies to each worker, whether as basic rates or as cash in lieu of fringe benefits, and provides for the contractor's representation in the statement of compliance on the payroll (as shown on page 2) that he/she is paying for fringe benefits required by the contract and not paid as cash in lieu of fringe benefits. Detailed instructions concerning the preparation of the payroll follow:

Contractor or Subcontractor: Fill in your firm's name and check appropriate box.

Address: Fill in your firm's address.

Payroll No.: Beginning with the number "1", list the payroll number for the submission.

For Week Ending: List the workweek ending date.

Project and Location: Self-explanatory.

Project or Contract No.: Self-explanatory.

Column 1 - Name and Individual Identifying Number of Worker: Enter each worker's full name and an individual identifying number (e.g., last four digits of worker's social security number) on each weekly payroll submitted.

Column 2 - No. of Withholding Exemptions: This column is merely inserted for the employer's convenience and is not a requirement of Regulations, Part 3 and 5.

Column 3 - Work Classifications: List classification descriptive of work actually performed by each laborer or mechanic. Consult classification and minimum wage schedule set forth in contract specifications. If additional classifications are deemed necessary, see Contracting Officer or Agency representative. An individual may be shown as having worked in more than one classification provided an accurate breakdown or hours worked in each classification is maintained and shown on the submitted payroll by use of separate entries.

Column 4 - Hours worked: List the day and date and straight time and overtime hours worked in the applicable boxes. On all contracts subject to the Contract Work Hours Standard Act, enter hours worked in excess of 40 hours a week as "overtime".

Column 5 - Total: Self-explanatory

Column 6 - Rate of Pay (Including Fringe Benefits): In the "straight time" box for each worker, list the actual hourly rate paid for straight time worked, plus cash paid in lieu of fringe benefits paid. When recording the straight time hourly rate, any cash paid in lieu of fringe benefits may be shown separately from the basic rate. For example, "\$12.25/.40" would reflect a \$12.25 base hourly rate plus \$0.40 for fringe benefits. This is of assistance in correctly computing overtime. See "Fringe Benefits" below. When overtime is worked, show the overtime hourly rate paid plus any cash in lieu of fringe benefits paid in the "overtime" box for each worker; otherwise, you may skip this box. See "Fringe Benefits" below. Payment of not less than time and one-half the basic or regular rate paid is required for overtime under the Contract Work Hours Standard Act of 1962 if the prime contract exceeds \$100,000. In addition to paying no less than the predetermined rate for the classification which an individual works, the contractor must pay amounts predetermined as fringe benefits in the wage decision made part of the contract to approved fringe benefit plans, funds or programs or shall pay as cash in lieu of fringe benefits. See "FRINGE BENEFITS" below.

Column 7 - Gross Amount Earned: Enter gross amount earned on this project. If part of a worker's weekly wage was earned on projects other than the project described on this payroll, enter in column 7 first the amount earned on the Federal or Federally assisted project and then the gross amount earned during the week on all projects, thus "\$163.00/\$420.00" would reflect the earnings of a worker who earned \$163.00 on a Federally assisted construction project during a week in which \$420.00 was earned on all work.

Column 8 - Deductions: Five columns are provided for showing deductions made. If more than five deductions are involved, use the first four columns and show the balance deductions under "Other" column; show actual total under "Total Deductions" column; and in the attachment to the payroll describe the deduction(s) contained in the "Other" column. All deductions must be in accordance with the provisions of the Copeland Act Regulations, 29 C.F.R., Part 3. If an individual worked on other jobs in addition to this project, show actual deductions from his/her weekly gross wage, and indicate that deductions are based on his gross wages.

Column 9 - Net Wages Paid for Week: Self-explanatory.

Totals - Space has been left at the bottom of the columns so that totals may be shown if the contractor so desires.

Statement Required by Regulations, Parts 3 and 5: While the "statement of compliance" need not be notarized, the statement (on page 2 of the payroll form) is subject to the penalties provided by 18 U.S.C. § 1001, namely, a fine, possible imprisonment of not more than 5 years, or both. Accordingly, the party signing this statement should have knowledge of the facts represented as true.

Items 1 and 2: Space has been provided between items (1) and (2) of the statement for describing any deductions made. If all deductions made are adequately described in the "Deductions" column above, state "See Deductions column in this payroll." See "FRINGE BENEFITS" below for instructions concerning filling out paragraph 4 of the statement.

Item 4 FRINGE BENEFITS - Contractors who pay all required fringe benefits: If paying all fringe benefits to approved plans, funds, or programs in amounts not less than were determined in the applicable wage decision of the Secretary of Labor, show the basic cash hourly rate and overtime rate paid to each worker on the face of the payroll and check paragraph 4(a) of the statement on page 2 of the WH-347 payroll form to indicate the payment. Note any exceptions in section 4(c).

Contractors who pay no fringe benefits: If not paying all fringe benefits to approved plans, funds, or programs in amounts of at least those that were determined in the applicable wage decision of the Secretary of Labor, pay any remaining fringe benefit amount to each laborer and mechanic and insert in the "straight time" of the "Rate of Pay" column of the payroll an amount not less than the predetermined rate for each classification plus the amount of fringe benefits determined for each classification in the application wage decision. Inasmuch as it is not necessary to pay time and a half on cash paid in lieu of fringe benefits, the overtime rate shall be not less than the sum of the basic predetermined rate, plus the half time premium on basic or regular rate, plus the required cash in lieu of fringe benefits at the straight time rate. In addition, check paragraph 4(b) of the statement on page 2 the payroll form to indicate the payment of fringe benefits in cash directly to the workers. Note any exceptions in section 4(c).

Use of Section 4(c), Exceptions

Any contractor who is making payment to approved plans, funds, or programs in amounts less than the wage determination requires is obliged to pay the deficiency directly to the covered worker as cash in lieu of fringe benefits. Enter any exceptions to section 4(a) or 4(b) in section 4(c). Enter in the Exception column the craft, and enter in the Explanation column the hourly amount paid each worker as cash in lieu of fringe benefits and the hourly amount paid to plans, funds, or programs as fringe benefits. The contractor must pay an amount not less than the predetermined rate plus cash in lieu of fringe benefits as shown in section 4(c) to each such individual for all hours worked (unless otherwise provided by applicable wage determination) on the Federal or Federally assisted project. Enter the rate paid and amount of cash paid in lieu of fringe benefits per hour in column 6 on the payroll. See paragraph on "Contractors who pay no fringe benefits" for computation of overtime rate.

Public Burden Statement: We estimate that it will take an average of 55 minutes to complete this collection of information, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection of information, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, EISA, U.S. Department of Labor, Room 32502, 200 Constitution Avenue, N.W., Washington, D.C. 20210.

END OF SECTION 00 73 43

DAVIS BACON WAGE DETERMINATION

SECTION 00 73 46

"General Decision Number: IA20260074 05/18/2026

State: Iowa

Construction Types: Building

Counties: Iowa Counties of
Story

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

BOIL0083-009 01/01/2025		
	Rates	Fringes
BOILERMAKER.....	\$ 48.48	33.91

BRIA0003-020 05/01/2025		
	Rates	Fringes
TILE SETTER.....	\$ 37.44	19.12

BRIA0003-042 05/01/2025		
	Rates	Fringes
BRICKLAYER AND STONEMASON.....	\$ 37.44	19.12

ELEV0033-002 01/01/2025		
	Rates	Fringes
ELEVATOR MECHANIC FOOTNOTES: A. EMPLOYER CONTRIBUTES 8% OF REGULAR BASIC HOURLY RATE AS VACATION PAY CREDIT FOR EMPLOYEES WITH MORE THAN 5 YEARS OF SERVICE, AND 6% FOR EMPLOYEES WITH LESS THAN 5 YEARS OF SERVICE. B. PAID HOLIDAYS: NEW YEAR'S DAY; MEMORIAL DAY; INDEPENDENCE DAY; LABOR DAY; VETERAN'S DAY; THANKSGIVING DAY; DAY AFTER THANKSGIVING; & CHRISTMAS DAY.....	\$ 56.30	38.44

ENG10234-005 05/01/2025		
	Rates	Fringes
POWER EQUIPMENT OPERATOR: (CLASS 3)- LOADER(UNDER 35 H.P.) WITH OR WITHOUT ATTACHMENTS; FORKLIFT(OTHER THAN ABOVE); PAVER(ALL TYPES); ROLLER.....	\$ 32.62	21.94
POWER EQUIPMENT OPERATOR: (CLASS 2)- BULLDOZER; FORKLIFT(ON STEEL ERECTION AND MACHINERY MOVING OR HOISTING ABOVE ONE COMPLETE STORY); LOADER.....	\$ 34.70	21.94
POWER EQUIPMENT OPERATOR: (CLASS 1)- BACKHOE/EXCAVATOR/TRACKHOE.....	\$ 35.02	21.94

IRON0067-003 05/01/2025		

IRONWORKER: STRUCTURAL.....	Rates \$ 37.80	Fringes 23.54
IRON0089-003 05/01/2025		
IRONWORKER: ORNAMENTAL.....	Rates \$ 35.53	Fringes 24.45
IRON0111-002 07/01/2024		
IRONWORKER: REINFORCING.....	Rates \$ 37.50	Fringes 30.99
LABOR0177-002 05/01/2025		
LABORER: MASON TENDER - BRICK.....	Rates \$ 29.36	Fringes 17.99
PAINT0246-001 05/01/2025		
PAINTER: BRUSH AND ROLLER.....	Rates \$ 32.41	Fringes 16.30
PLAS0021-001 05/01/2025		
CEMENT MASON/CONCRETE FINISHER.....	Rates \$ 34.55	Fringes 23.83
PLUM0033-002 06/01/2025		
PIPEFITTER (HVAC PIPE INSTALLATION ONLY)	Rates \$ 45.20	Fringes 23.25
PLUM0033-004 06/01/2025		
PLUMBER.....	Rates \$ 45.20	Fringes 23.25
SHEE0045-002 06/01/2024		
SHEET METAL WORKER (INCLUDES HVAC DUCT AND UNIT INSTALLATION).....	Rates \$ 39.38	Fringes 24.95
SUTA2016-049 07/19/2016		
ROOFER	Rates \$ 18.87	Fringes 4.96
PAINTER: SPRAY.....	\$ 19.77	6.64
OPERATOR: CRANE.....	\$ 25.70	9.13
LABORER: PIPELAYER.....	\$ 16.11	0.00
LABORER: COMMON OR GENERAL.....	\$ 16.06	4.32
INSULATOR: MECHANICAL (DUCT, PIPE AND MECHANICAL SYSTEM INSULATION).....	\$ 18.16	3.94
ELECTRICIAN.....	\$ 23.92	4.18
CARPENTER.....	\$ 23.78	11.17
UAVGIA0003 01/01/2025		
OPERATOR: BOBCAT/SKID STEER/SKID LOADER.....	Rates \$ 33.57	Fringes 20.75
.....		
WELDERS - Receive rate prescribed for craft performing		

operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than **◆SU◆**, **◆UAVG◆**, **◆SA◆**, or **◆SC◆** denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes

over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ♦SU♦ identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

♦SU♦ wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ♦SA♦ identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ♦SA♦ identifier took effect under state law in the state from which the rates were adopted.

----- WAGE DETERMINATION APPEALS PROCESS

- 1) Has there been an initial decision in the matter? This can be:
- a) a survey underlying a wage determination
 - b) an existing published wage determination
 - c) an initial WHD letter setting forth a position on a wage determination matter
 - d) an initial conformance (additional classification)

and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

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END OF SECTION 00 73 46

SECTION 00 73 49

LABOR STANDARDS

HUD-4010
Federal Labor Standards Provisions

U.S. Department of Housing and Urban Development
Office of Davis-Bacon and Labor Standards

A. APPLICABILITY

The Project or Program to which the construction work covered by this Contract pertains is being assisted by the United States of America, and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

1. Minimum wages and fringe benefits

- i. All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in 29 CFR 5.5(d) and (e), the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(v) of these contract clauses; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under 29 CFR 5.5(a)(1)(iii)) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

ii. Frequently recurring classifications

- A. In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to 29 CFR 5.5(a)(1)(iii), provided that:
 1. The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
 2. The classification is used in the area by the construction industry; and
 3. The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.
- B. The Administrator will establish wage rates for such classifications in accordance with 29 CFR 5.5(a)(1)(iii)(A)(3). Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

iii. Conformance

- A. The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be

Previous editions obsolete

1

Form HUD-4010, (10/2023)
ref. Handbook 1344.1

classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 2. The classification is used in the area by the construction industry; and
 3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- B. The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.
- C. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- D. In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- E. The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under 29 CFR 5.5 (a)(1)(iii)(C) and (D). The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to 29 CFR 5.5 (a)(1)(iii)(C) or (D) must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- iv. **Fringe benefits not expressed as an hourly rate**
Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- v. **Unfunded plans**
If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in 29 CFR 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
- vi. **Interest** In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding

i. Withholding requirements

The U. S. Department of Housing and Urban Development may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in 29 CFR 5.5(a) for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in 29 CFR 5.5(a)(3)(iv), HUD may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

ii. Priority to withheld funds

The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:

- A. A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- B. A contracting agency for its procurement costs;
- C. A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- D. A contractor's assignee(s);
- E. A contractor's successor(s); or
- F. A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

3. Records and certified payrolls

i. Basic record requirements

- A. **Length of record retention.** All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.
- B. **Information required** Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.
- C. **Additional records relating to fringe benefits.** Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(v) that the wages of any laborer or mechanic include the amount of any

costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

- D. Additional records relating to apprenticeship** Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

ii. Certified payroll requirements

A. Frequency and method of submission The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to HUD if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system

B. Information required The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i)(B), except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

C. Statement of Compliance Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

1. That the certified payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information and basic records are being maintained under 29 CFR 5.5 (a)(3)(i), and such information and records are correct and complete;
2. That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly

- from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and
3. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.
 - D. **Use of Optional Form WH-347** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by 29 CFR 5.5(a)(3)(ii)(C).
 - E. **Signature** The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.
 - F. **Falsification** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.
 - G. **Length of certified payroll retention** The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.
- iii. **Contracts, subcontracts, and related documents** The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.
- iv. **Required disclosures and access**
- A. **Required record disclosures and access to workers** The contractor or subcontractor must make the records required under 29 CFR 5.5(a)(3)(i)–(iii), and any other documents that HUD or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by 29 CFR 5.1, available for inspection, copying, or transcription by authorized representatives of HUD or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.
 - B. **Sanctions for non-compliance with records and worker access requirements** If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to 29 CFR 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.
 - C. **Required information disclosures** Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to HUD if the agency is a party to

the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity

i. Apprentices

- A. Rate of pay** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- B. Fringe benefits** Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.
- C. Apprenticeship ratio** The allowable ratio of apprentices to journeymen on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to 29 CFR 5.5(a)(4)(i)(D). Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in 29 CFR 5.5(a)(4)(i)(A), must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.
- D. Reciprocity of ratios and wage rates** Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

- ii Equal employment opportunity** The use of apprentices and journeymen under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

5 Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6 Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (11), along with the applicable wage determination(s) and such other clauses or contract modifications as the U.S. Department of Housing and Urban Development may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

7 Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8 Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9 Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

- i. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).
- ii. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).
- iii. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11 Anti-retaliation It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;
- ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;
- iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5; or
- iv. Informing any other person about their rights under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5.

B. Contract Work Hours and Safety Standards Act (CWHSSA)

The Agency Head must cause or require the contracting officer to insert the following clauses set forth in 29 CFR 5.5(b)(1), (2), (3), (4), and (5) in full, or (for contracts covered by the Federal Acquisition Regulation) by reference, in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses must

be inserted in addition to the clauses required by 29 CFR 5.5(a) or 4.6. As used in this paragraph, the terms "laborers and mechanics" include watchpersons and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in 29 CFR 5.5(b)(1) the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in 29 CFR 5.5(b)(1), in the sum of \$31 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in 29 CFR 5.5(b)(1).
3. **Withholding for unpaid wages and liquidated damages**
 - i. **Withholding process** The U.S Department of Housing and Urban Development or the recipient of Federal assistance may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in 29 CFR 5.5(b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.
 - ii **Priority to withheld funds** The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:
 - A. A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
 - B. A contracting agency for its procurement costs;
 - C. A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
 - D. A contractor's assignee(s);
 - E. A contractor's successor(s); or
 - F. A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.
4. **Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses set forth in 29 CFR 5.5(b)(1) through (5) and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in 29 CFR 5.5(b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss,

due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

- 5 Anti-retaliation** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:
- i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in 29 CFR part 5;
 - ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or 29 CFR part 5;
 - iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or 29 CFR part 5; or
 - iv. Informing any other person about their rights under CWHSSA or 29 CFR part 5.
- C. CWHSSA required records clause** In addition to the clauses contained in 29 CFR 5.5(b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by 29 CFR 5.1, the Agency Head must cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor must maintain regular payrolls and other basic records during the course of the work and must preserve them for a period of 3 years after all the work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made and actual wages paid. Further, the Agency Head must cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview workers during working hours on the job.
- D. Incorporation of contract clauses and wage determinations by reference** Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and contractors and subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.
- E. Incorporation by operation of law** The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by 29 CFR 5.1 to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

F. HEALTH AND SAFETY

The provisions of this paragraph (F) are applicable where the amount of the prime contract exceeds \$100,000.

1. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
2. The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96), 40 U.S.C. § 3701 et seq.
3. The contractor shall include the provisions of this paragraph in every subcontract, so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

Build America Buy America (BABA) Requirements

SECTION 00 73 51

America (BABA) Act, 41 USC 8301 note, and all applicable rules and notices, as may be amended, if applicable to the Grantee's infrastructure project. Pursuant to HUD's Notice, "Public Interest Phased Implementation Waiver for FY 2022 and 2023 of Build America, Buy America Provisions as Applied to Recipients of HUD Federal Financial Assistance" (88 FR 17001), any funds obligated by HUD on or after the applicable listed effective dates, are subject to BABA requirements, unless excepted by a waiver.

This document contain all necessary links and forms to ensure grantee compliance:

- Additional guidance in IEDA's CDBG Management Guide, Chapter 2:
 - <https://opportunityiowa.gov/media/3818/download?inline>
- Additional information, including any published waivers, is posted on the HUD website,
 - <https://www.hud.gov/hud-partners/baba>
- Link to the BABA Claim Certification Request:
 - <https://opportunityiowa.gov/media/3846/download?inline>
- Link to the BABA Project Items Status Worksheet:
 - <https://opportunityiowa.gov/media/3848/download?inline>

1. All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
2. All manufactured products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.
3. All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.

BABA Covered and Non Covered Items

- Iron and steel + manufactured products + construction materials
- Items should only be classified into ONE of the three categories
- Applies to items consumed in, incorporated into or affixed to an infrastructure project (aka permanently incorporated)
- Does not apply to items brought to and removed from the construction site prior to the completion of the infrastructure project (e.g., temporary scaffolding)
- Does not apply to equipment and furnishings that are used at or within the finished infrastructure project (e.g., movable chairs, desks, portable computer equipment)

Definition of Iron and Steel -

- Items that are predominantly iron or steel, unless another standard applies under law or regulation
- All manufacturing processes, from the initial melting stage through the application of coatings, must occur in the U.S.

Definition of Manufactured Products -

- Manufactured in the U.S.
- Cost of components that are mined, produced, or manufactured in the U.S. is greater than 55 percent of the total cost of all components of the manufactured product
- Unless another standard for determining the minimum amount of domestic content has been established under applicable law or regulation

Construction Materials -**Includes:**

- Non-ferrous metals
- Plastic and polymer-based products (including PVC, composite building materials, and polymers used in fiber optic cables)
- Glass (including optic glass)
- Lumber
- Drywall

Excludes:

- Items made primarily of iron or steel
- Manufactured products
- Cement and cementitious materials
- Aggregates such as stone, sand, or gravel
- Aggregate binding agents/additives

LANGUAGE FOR INCLUSION IN CONTRACTS AND SUBCONTRACTS

Build America, Buy America Procurement Bid Language

BABA Language for Inclusion into Professional Services Agreements:

The Grantee and its Contractors/Subcontractors must comply with the requirements of the Build America, Buy America (BABA) Act, 41 USC 8301 note, and all applicable rules and notices, as may be amended, if applicable to the Grantee's infrastructure project. Pursuant to HUD's Notice, "Public Interest Phased Implementation Waiver for FY 2022 and 2023 of Build America, Buy America Provisions as Applied to Recipients of HUD Federal Financial Assistance" (88 FR 17001), any funds obligated by HUD on or after the applicable listed effective dates, are subject to BABA requirements, unless excepted by a waiver.

This agreement is for professional services related to a project that is subject to the Build America, Buy America Act (BABA) requirements under Title IX of the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. 117-58. While professional services are not subject to BABA, the Provider understands that they are responsible for ensuring that, absent a waiver by the Department of Housing and Urban Development, Provider shall not approve for use in this project, any iron, steel, manufactured products, or construction materials unless such materials have been produced in the United States. Provider shall obtain all necessary compliance certificates for work that is within provider's scope of work. Failure to do so shall be a default under this agreement. Guidance on complying with BABA is outlined by Office of Management and Budget's Memorandum M-24-02, Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure.

Sample Certifications

As indicated in the contract language, it will be the responsibility of the Contractor to obtain certifications that the products and materials used in the project are U.S.-made. EPA recommends the use of a step certification process for documenting compliance with BABA requirements, similar to one used by the Federal Highway Administration. Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. Each handler (supplier, fabricator, manufacturer, processor, coater, etc.) of the iron and steel products certifies that their step in the process was domestically performed.

The following information is provided as a sample letter of step certification for BABA compliance. Documentation must be provided on company letterhead. In this example, there may be multiple letters from different manufacturers if one manufacturer did not perform all of the steps.

Date
Company Name
Company Address
City, State Zip
Subject: Build America, Buy America Step Certification for Project (XXXXXXXXXX)
I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the Build America, Buy America requirement as mandated in EPA's State Revolving Fund Programs.
Item, Products and/or Materials:
1. Xxxx
2. Xxxx
3. Xxxx
Such process took place at the following location:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.
Signed by company representative

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the U.S. and providing detailed information on the steps involved.

The following is a template for this type of final certification.

		On Manufacturer's Letterhead	
		IRON & STEEL, INC. 1959 Steel Drive Ironville, OH 12345	
April 30, 2015		MATERIAL CERTIFICATION	
RE: Job Name: Waterprojectville, Iowa - 2015 State Revolving Fund Water Infrastructure Project SRF Project Number: CS1920999 01		References the SRF Project	
I certify that the processes for manufacturing or fabricating the following products and/or materials provided for the subject project took place at the following U.S. locations:			
Quantity	Description	Manufacturing Processes	Location Where Processes Occurred
3 count	AB123456 4" Gate Valve	Melting, poured, machined	Ironville, OH
60 count	XY654321 Reinforced Concrete Manhole	Melted, rolled, fabricated	Steel City, IA
60 count	XZ123456 Manhole Cover	Melted, cast, finished	Stainless, MS
1200 linear feet	AB654321 4" Ductile Iron Water Pipe	Melted, rolled, finished	Pipetown, CA
I further certify that the products and/or materials are in full compliance with the Build America, Buy America requirement as mandated in the U.S. Environmental Protection Agency's State Revolving Fund programs. If any of the above compliance statements change while providing material to this project we will immediately notify the supplier, prime contractor, consulting engineer, or project owner.			
Specifies the Products		Specifies the Manufacturing Processes and the U.S. Locations Where They Were Performed	
Signature of Manufacturer's Representative		On behalf of IRON & STEEL, INC., <i>Jane Smith</i> Jane Smith Product Quality Manager	

BABA CLAIM COMPLIANCE CERTIFICATION FORM

CLIENT NAME: _____ (hereinafter CLIENT)
PROJECT TITLE: _____ (hereinafter PROJECT)
CDBG PROJECT NUMBER: _____ CDBG CLAIM NO. _____
CONTRACTOR NAME: _____ (hereinafter CONTRACTOR)
PAY APPLICATION NO. _____ AMOUNT: _____

CONTRACTOR CERTIFICATION

I _____ the project manager, superintendent, owner, or authorized representative of the CONTRACTOR which has been contracted by the CLIENT to complete the proposed PROJECT and for which we are now submitting Pay Application No. _____ in the amount of _____ hereby certify that all the iron, steel, construction materials, and manufactured products brought onto the PROJECT site and used on the PROJECT are BABA Compliant as required by the Build America, Buy America Act (BABA) requirements under Title IX of the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. 117-5. I also certify that I have provided the GRANT ADMINISTRATOR with a full and complete list of BABA-eligible products to be used on this project and all the required BABA certifications for those items as provided by the manufacturer.

SIGNED: _____ DATE: _____
PRINTED NAME: _____ TITLE: _____

ARCHITECT OR ENGINEER CERTIFICATION

I _____ the architect or engineer for the PROJECT hereby certify that I have reviewed the CONTRACTOR's Pay Application No. _____ and the materials used on this project and agree that the CONTRACTOR has utilized certified BABA compliant iron, steel, construction materials, and manufactured products for the work that is certified as complete as of this pay application.

SIGNED: _____ DATE: _____
PRINTED NAME: _____ TITLE: _____

This form is required by IEDA for each submission of a draw for reimbursement on the CDBG funded project.

END OF SECTION 00 73 51

SECTION 00 74 03

SPECIAL BUILD AMERICA, BUY AMERICA REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Build America, Buy America Act (BABA) Certification

- a. In accordance with BABA requirements the Owner must maintain documentation of compliance with the BABA requirements. Manufacturer shall supply certifications of compliance for all products subject to BABA requirements. Certification must be dated within 6 months of its submittal to the Owner and include the following:
 - i. Identification of the specific product(s) and quantities to be delivered to the site.
 - ii. Identification of where the product(s) was made including location(s) of foundry/mill/factory where the product(s) was manufactured) City and State).
 - iii. Name of the project and the location of the project where the product(s) will be delivered.
 - iv. Signature of company representative.
 - v. Specific reference to the American Onon and Steel. Reference to Buy America, Made in USA, Buy America Act, or any state domestic preference is not acceptable.
- b. BABA Certification must be submitted prior to or upon delivery of the product(s) to the project location.
- c. BABA Certification must meet the content requirements set forth in this Section.
- d. Failure to supply BABA certifications as required will result in delays in progress payments until such time that the BABA requirements are met.
- e. Additional BABA information and certification examples are attached to this Specification Section.
- f. Contractor to notify Engineer of any products that need to be utilized in the project for which no BABA products are available.

END OF SECTION 00 74 03

**SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES**

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the responsibilities and procedures involved with Allowances, and Alternates. This information is provided for general use during the course of the project and does not necessarily mean that Allowances or Alternates exist at the time of the Bid. Refer to individual Specification Sections or the Drawings for the identification of Allowances or Alternates specific to the Work of this project. Refer also to the Bid Alternate Schedule in the form bid sheet.
- B. The Contractor shall include in his or her Bid, all Allowance costs. A separate list of allowance costs shall be included with the bid form.
- C. Contingency Allowance: A contingency allowance shall be included in the Contractor's base bid amount. Contingency amounts can be used at the Owner's discretion with the Architect's counsel. **Contingency allowance amounts shall be: 5% of the Base Bid amount unless otherwise noted.**

1.02 ALLOWANCES

- A. Allowances may include any or all of the following:
 - 1. Lump sum allowances.
 - 2. Unit cost allowances.
 - 3. Contingency allowances.
- B. Costs Included in Allowances: Cost of Product to Contractor or Subcontractor, less applicable trade discounts; and applicable taxes.
- C. Costs Not Included in the Allowance But Included in Contract Sum: Protection of products from elements and from damage; and labor for installation and finishing, overhead, profit, and other expenses contemplated for stated allowance amounts.
- D. Architect Responsibilities:
 - 1. Consult with Contractor in consideration and selection of products, suppliers, and installers.
 - 2. Select products in consultation with Owner and transmit decision to Contractor.
 - 3. Prepare Change Order.
- E. Contractor Responsibilities:
 - 1. Assist Architect in selection of products, suppliers, and installers.
 - 2. Obtain proposals from suppliers and installers and offer recommendations.
 - 3. On notification of selection by Architect, Owner, execute purchase agreement with designated supplier and installer.
 - 4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
 - 5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
- F. Difference in costs will be adjusted by Change Order.
- G. Selection and Purchase:
 - 1. At the earliest practical date after award of the Contract, advise Owner or Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
 - 2. At Owner or Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
 - 3. Purchase products and systems selected by Architect from the designated supplier.
- H. Submittals:
 - 1. Submit proposals for purchase of products or systems included in allowances, in

- the form specified for Change Orders.
- 2. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- I. Contingency Allowances:
 - 1. Use the contingency allowance only as directed by Owner or Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
 - 2. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
 - 3. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and overhead and profit margins.
 - 4. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.03 ALTERNATES

- A. Related Documents:
 - 1. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.
 - 2. Description of Requirements:
 - a. Definition: An Alternate is an amount shown in the Form of Proposal that will be added or deducted from the Contract Amount if the Owner elects to accept the Alternate by issuance of a Change Order in the stated amount altering in either scope of work or in products, materials, equipment, systems or installation requirements methods described in the Contract Documents.
 - 1) The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
 - b. Coordination: Contractor to coordinate related work and modify and adjust adjacent work as required to ensure that work affected by each accepted Alternate is complete and fully integrated into the Project.
 - 1) Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
 - c. Notification: Immediately after Contract Signing prepare and distribute to each party involved a notification of the status regarding each Alternate. Indicate whether Alternates have been accepted, rejected, or deferred for consideration at a later date. Include a complete description of negotiated modifications to Alternates, if any.
 - d. Execute accepted alternates under the same conditions as other work of the Contract.

1.04 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - 2. Submit the Schedule of Values to Owner or Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

- B. Format and Content: Use the bid form as a guide to establish line items for the final Schedule of Values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide several line items for principal subcontract amounts, where appropriate.
 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 5. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 - a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.
 6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
 8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.05 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect (if applicable) and paid for by Owner.
1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheet or similar as form for Applications for Payment is preferred but not required. Contact architect for assistance.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 3. 5% of total costs shall be retained until the completion of the project.
- E. Transmittal: Submit 1 signed and notarized original copy of each Application for Payment to Owner or Architect. Include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit partial waivers of Mechanic's Liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Partial Lien Waivers: Submit each Application for Payment with Contractor's waiver of mechanic's lien for construction period covered by the application.
 - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Submittals Schedule (preliminary if not final).
 6. List of Contractor's staff assignments.
 7. List of Contractor's principal consultants.
 8. Copies of building permits.
 9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 10. Initial progress report.
 11. Report of preconstruction conference.
 12. Certificates of insurance and insurance policies.
 13. Performance and payment bonds.
 14. Data needed to acquire Owner's insurance.
- H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.

3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims." Or similar form.
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens." Or similar form.
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final, liquidated damages settlement statement

END OF SECTION 01 20 00

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.01 COORDINATION AND MEETINGS

- A. Preconstruction Conference:
 - 1. Prepare for and attend an initial meeting before date of commencement of Work. Time, place, agenda, and leader of meeting will be determined by Owner.
 - 2. The following shall attend:
 - a. Owner's Representative.
 - b. Architect and Consultants.
 - c. Contractor's Project Manager or Corporate Officer-in-Charge.
 - d. Contractor's Superintendent.
 - e. Major subcontractors.
 - 3. Agenda Items:
 - a. Time of commencement of Work.
 - b. Construction schedule.
 - c. Use of site.
 - d. Delivery and storage procedures.
 - e. Safety.
 - f. Security.
 - g. Review of administrative procedures.
 - 1) Progress meetings.
 - 2) Submittals procedure.
 - 3) Applications for Payment.
 - 4) Substitutions/Change Orders.
 - 5) Record Documents.
 - 6) Contract Close-out.
 - 4. General Submittals required at Preconstruction Meeting:
 - a. List of subcontractors.
 - b. Construction Schedule.
 - c. Submittal Schedule.
 - d. Schedule of Values, preliminary or final.
 - e. Evidence of permits and other licenses.
 - f. Evidence of Contractor's insurance coverage.
 - g. Superintendent qualifications, if requested by Owner.
- B. Progress Meetings:
 - 1. Progress meetings shall be held on a twice monthly basis or at the discretion of the Owner or Architect, and at regularly scheduled times that are convenient for the attendance of subcontractors and other parties involved.
 - a. The following list of construction representatives shall attend all scheduled construction progress meetings:
 - 1) Owner
 - 2) Architect
 - 3) Project Manager and Project Superintendent of the following:
 - a) General Contractor:
 - b) Mechanical Contractor: if work involved
 - c) Electrical Contractor: if work involved
 - 4) Other subcontractors and suppliers as requested by the General Contractor.
 - b. Agenda:
 - 1) Review construction schedule and coordination items.
 - 2) Review submittal schedule and required milestones.

- 3) Conduct meetings in a manner that resolve coordination problems.
 - 4) Review clarifications and supplemental instructions as required.
 - c. Responsibilities:
 - 1) General Contractor shall preside at each meeting, and shall record meeting results.
 - 2) General Contractor shall distribute this memorandum to each entity performing work at the project site. Prepare similar memorandum for separate contractors where interfacing of their work is required.
 - 3) General Contractor and Major Subcontractors: Cooperate in scheduling and attending all regularly scheduled Project Meetings. Notify General Contractor prior to meeting if representative is unable to attend.
 - C. Limitations on Use Of Construction Area:
 1. General Contractor: Specific limitations on usage as well as specific requirements that impact utilization are as indicated in the pre-bid conference and by other Contract Documents in coordination with the subcontractors. Each subcontractor shall schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.
 - D. Cross Discipline Coordination:
 1. General:
 - a. General Contractors: Review all Contract Drawings and Specifications to ascertain all items of work that may indicate materials or labor to be supplied by several subcontractors.
 - b. General Contractors: Verify that cross discipline work as indicated below has been included in proposals even though this requirement has not been specifically cross referenced by the Contract Documents.
 2. Cross Contract Coordination Categories: (Including but not limited to the following)
 - a. Electrical:
 - b. Fire safing/stopping at walls and floors
 3. Architectural rough-in and installation of:
 - a. Fire stopping of floor and wall penetrations
 - b. Electrical, lighting, and outlets
- 1.02 CONSTRUCTION PROGRESS DOCUMENTATION**
- A. Schedule Of Tests Required:
 1. The Contract Documents of this Contract require that the Contractor submit to the Architect for review and information the following tests and that the Contractor shall include the costs of such tests in account of this bid.
 - a. SPECIAL INSPECTIONS: When required by Code or local ordinance, inspections: by Owner under separate contract.
 - B. Work Schedule:
 1. The Contractor shall submit to the Architect for approval a schedule of work identifying the sequence of construction, beginning and completion time of equipment installation, material application, subcontractor work, etc.
 2. Such schedule may be by critical path schedule or other such means as approved by Architect or owner. Specific tasks shall be appropriately identified with date on job and completion.
 3. Contractor shall update the work schedule periodically and as requested by Architect.
 - C. Progress Schedules And Reports:

1. The Contractor shall submit with the Application for Payment a progress schedule noting work complete, product delivery schedule and current status of project.

END OF ADMINISTRATIVE REQUIREMENTS 01 30 00

SECTION 01 31 13

PROJECT COORDINATION

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS

- A. Section 01 33 00: Submittal Procedures.
- B. Section 01 60 00: Product Requirements.
- C. Section 01 77 00: Closeout Procedures.

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various Sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items to be installed later.
- B. Coordinate sequence of work to accommodate Owner occupancy.
- C. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of the various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

1.03 COORDINATION OF SUBMITTALS

- A. Schedule and coordinate submittals as specified in Section 01 33 00.
- B. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on work of other sections.

1.04 COORDINATION OF SPACE

- A. Coordinate use of project space and sequence of installation of work which is indicated diagrammatically on the drawings. Follow routings indicated for pipes, ducts, conduits, etc., as closely as practicable, with due allowance for available physical space; make runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- B. In finished areas, except as otherwise indicated, conceal pipes, ducts and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

1.05 COORDINATION OF CONTRACT CLOSEOUT

- A. Coordinate completion and cleanup of work of separate Sections in preparation for Substantial Completion.
- B. After Owner occupancy of the premises, coordinate access to site for correction of defective work and work not in accordance with the Contract Documents, to minimize disruption of the Owner's activities.
- C. Assemble and coordinate closeout submittals specified in Section 01 77 00.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent work.
- B. Verify that existing substrate is capable of structural attachment of new work being applied.
- C. Examine and verify specific conditions described in individual specifications sections.
- D. Verify that utility services are available, of the correct characteristics, and in the correct location.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying the next material or substance.
- C. Apply any manufacturer required or recommended substrate primer, sealer or conditioner prior to applying any new material or substance in contact or bond.

3.03 CUTTING AND PATCHING

- A. Employ skilled and experienced personnel to perform cutting and patching. Where products being cut are products put in place under this Contract, have cutting and patching performed by the original installer.
- B. If provisions for cutting and patching for any specific item is not addressed in the Contract Documents, submit a written request to the Architect in advance of cutting or alteration which affects:
 - 1. Structural integrity of any element of the Project.
 - 2. Integrity of weather exposed or moisture resistant elements.
 - 3. Efficiency, maintenance or safety of any operational element.
 - 4. Visual quality of site exposed elements.
 - 5. Work of the Owner.
- C. Include in the above request:
 - 1. Location and description of affected and proposed work and necessity for cutting or alteration.
 - 2. Alternatives to cutting and patching.
- D. Execute cutting, fitting and patching to complete the Work and to:
 - 1. Fit the several parts together properly to integrate with other work.
 - 2. Uncover work to provide for installation of improperly sequenced work.
 - 3. Uncover work to provide for the Architect's observation of covered work.
 - 4. Remove and replace defective and non-conforming work performed under this Contract.
 - 5. Provide openings in non-structural elements for penetrations of mechanical and electrical work.
 - 6. Execute fitting and adjustment of products to provide proper finished installation to comply with specified tolerances and finishes.
- E. Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of the Contract Documents.
- H. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- I. Maintain integrity of wall, ceiling or floor construction. Completely seal voids. At penetrations of fire-rated construction, completely seal voids with fire-rated material to full thickness of the penetrated element.
- J. Refinish entire surfaces where cutting and patching work occurs to provide an even, continuous finish to match adjacent finish to nearest intersections. Where assemblies are damaged by cutting and patching, refinish entire assemblies.

3.04 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in individual Sections. Match existing products and work for patching and extending work.
- B. Employ skilled and experienced personnel to perform cutting and patching. Where products being cut are products put in place under this Contract, have cutting and patching performed by the original installer.
- C. Preparation:
 - 1. Cut, move or remove items as necessary for access to alterations and renovations work. Replace and restore at completion. Remove unsuitable material not marked for salvage, such as rotted wood, rusted metals, and deteriorated masonry or concrete. Replace materials as specified for finished work.
 - 2. Remove debris and abandoned items from the area and from concealed spaces.
 - 3. Prepare surfaces and remove surface finishes to provide for proper installation of new work and new finishes.

4. Close openings in exterior surfaces to protect existing work, and salvage items if applicable, from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.
- D. General alterations work requirements:
1. Perform work to make altered spaces complete in all respects, including finishes and operational mechanical and electrical systems.
 2. Remove, cut and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to original condition, unless indicated otherwise.
 3. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent new finishes.
 4. Recover and refinish work that exposes mechanical and electrical work exposed accidentally during the work.
 5. Fit work at penetrations of surfaces.
 6. In addition to cleaning specified in Section 01 74 13, clean Owner-occupied areas of the Work daily.
- E. Transitions:
1. When new work abuts or aligns with existing, provide a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.
 2. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, neatly terminate existing surface along a straight line at a natural line of division, and request instructions from the Architect.
- F. Where partitions are removed, patch floors, walls and ceilings with finish materials to match existing.
1. Where removal of partitions results in adjacent spaces becoming one, rework floors, walls and ceilings to provide smooth planes without breaks, steps or bulkheads.
 2. Where a change of plane of 1/4 inch or more occurs, request instructions from the Architect.
- G. Trim existing doors as necessary to clear new floors. Refinish trimmed areas.
- H. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- I. Install products and finish surfaces as specified in individual Sections. Finish patches to form uniform finish and texture over the entire area. When finish cannot be matched, refinish the entire surface to the nearest intersections.

END OF SECTION 01 31 13

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The Work of this Section shall be included as a part of the Contract Documents of each Contractor on this Project. Where such Work applies to only one Contractor, it shall be defined as to which Contractor the Work belongs.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following:
 - 1. Submittal Procedures.
 - 2. Construction Progress Schedules.
 - 3. Proposed products list.
 - 4. Product data
 - 5. Shop drawings
 - 6. Samples
 - 7. Design data
 - 8. Test Reports
 - 9. Certificates
 - 10. Manufacturer's instruction
 - 11. Construction photographs

1.03 SUBMITTAL DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's and Construction Manager's responsive action.
- B. Informational Submittals: Written information that does not require Architect's and Construction Manager's approval. Submittals may be rejected for not complying with requirements.

1.04 SUBMITTAL PROCEDURE

- A. All submittals will be submitted from the Subcontractor to the General Contractor. Photos of the physical samples shall also be submitted to the General Contractor.
- B. Submittals, including those specified herein to be submitted to the Architect, excluding those directed to a specific individual, shall be submitted directly to the General Contractor for their review. General Contractor will forward the required submittals to the Architect for their review.
- C. Contractors on this Project shall provide submittals in accordance with the requirements of this Section. Where a submittal is required by a Contractor but assistance needed from others, Contractors shall participate and cooperate to expedite each submittal.
- D. Where submission of samples, shop drawings, or other items are required from suppliers or subcontractors, it shall be the responsibility of the Contractor for whom the subcontractor is executing the Work to see that the submittal items required are complete and properly submitted, and corrected and resubmitted at the time and in the order required so as not to delay the progress of the Work. Submittals shall be made through the Contractor.
- E. The Contractor shall check shop drawings, samples, and other submittals and submit them to the Architect with a letter of transmittal giving their approval, comments, and suggestions. Each transmittal shall include the following information:
 - 1. Date submitted.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Identification by Specification Section and quantity submitted for each submittal including name of subcontractors, manufacturer, or supplier.
 - 5. Notification of deviations from the Contract Documents for each submittal.
 - 6. Contractor's written approval marked on each submittal.

- F. The Contractor shall prepare, review, and stamp with their approval and submit, with reasonable promptness or within the specified time periods and in orderly sequence so as to cause no delay in the Work or in the Work of another Contractor, submittals required by these Contract Documents or subsequently required by modifications.
- G. The General Contractor and Architect shall review and take action on submittals with reasonable promptness, so as to cause no delay in the progress. A reasonable period of time in accordance with approved project schedule for review of and action taken on submittals shall be as specified herein, but in no case shall it be less than 10 working days from the time it is received by the Architect until the time the submittal is marked and forwarded or returned. Contractors shall allow sufficient mailing time for submittals.
- H. A schedule of submittals shall be submitted by the Contractor within 15 calendar days of Notice to Proceed date and before any materials, equipment, or fixtures are purchased. The schedule must include proposed submittal dates. The dates listed in the schedule must allow sufficient time for review and processing by the Architect. Resubmittal, if necessary, of the shop drawings or other data before the Work represented by shop drawings and samples is needed by the Contractor to complete its performance under their Contract. No extensions of time will be granted to the Contractor because of its failure to have shop drawings, video tape, sample, and product data submitted in time to allow for review, resubmittal and final review. Contractor must also submit a separate schedule (in table format), identifying all submittals dates for review and approval.

1.05 SHOP DRAWINGS

- A. The Sub Contractor or Contractor shall perform no portion of the Work requiring submittal and review of shop drawings, product data, samples or similar submittals until the respective submittal has been approved by the General Contractor and the Architect. Such Work shall be in accordance with approved submittals.
- B. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
 - 1. AutoCAD Drawings: CD copy of Drawings may be available from the Architect. The Contractors requiring this service must contact the Architect to verify availability. Contractors requesting drawings shall also be required to submit a release waiver that may be obtained from the Architect.
- C. Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data which are prepared by the Contractor or subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
 - 1. Advertising brochures will not be accepted as shop drawings.
 - 2. Erection and setting drawings as referred to in these Specifications will be considered as shop drawings and shall be submitted along with detailed shop drawings.
 - 3. Where schedules are required to indicate locations, they shall be submitted as part of the shop drawings package for that item.
 - 4. Shop drawings and schedules shall repeat the identification shown on the Contract Drawings.
 - 5. The Sub Contractor and General Contractor shall check all shop drawings, samples, and other submittals and submit them to the Architect giving their approval and/or comments and suggestions.
 - 6. Include the following information:
 - a. Dimensions.
 - b. Identification of products and materials included by sheet and detail number.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurements.

- D. Preparation of Submittals: Provide permanent marking on each submittal to identify project, date, Contractor, Subcontractor, submittal name, and similar information to distinguish it from other submittals. Show Contractor's executed review and approval marking and provide space for Architect's "action" marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through the General Contractor will be returned "without action".
- E. By approving and submitting shop drawings, the General Contractor thereby represents that they have determined and verified field measurements, field construction criteria, materials, catalog numbers, and similar data, and that they have checked and coordinated each shop drawing with the requirements of the Work and of the Contract Documents prior to submitting to the Architect. Submittals which are received from sources other than through the General Contractor will be returned without review, requiring resubmittal.
- F. The Contractor shall make corrections required by the Architect and shall resubmit the required number of corrected copies of shop drawings until appropriately marked. The Contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections requested by the Architect on previous submissions.
- G. The Architect will review shop drawings only for conformance with the design concept of the Project and with the information given in the Contract Documents. The Architect's review of a separate item shall not indicate review of an assembly in which the item functions.
 - 1. Only shop drawings, product data, and samples marked "Reviewed for Design Content Only" or "Reviewed as Noted" shall be considered "final" and used in conjunction with the work of this Project.
- H. The Architect's review of shop drawings shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation, nor shall the Architect's action relieve the Contractor from responsibility for errors or omissions in the shop drawings.
 - 1. The Architect's review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and qualities, or for substantiating instructions or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which it is a component.
- I. Notations and remarks added to shop drawings by the Architect are to ensure compliance to Drawings and Specifications and do not imply a requested or approved change to contract cost.
- J. Should deviations, discrepancies, or conflicts between shop and contract drawings and Specifications be discovered, either prior to or after review, Contract Documents shall control and be followed.
- K. The following number of shop drawings and product data submittals shall be made on this Project. Where an insufficient number of copies are submitted, no action will be taken until the proper number of copies have been received. Additional copies beyond the number required will be discarded. Schedule of Required Shop Drawings and Product Data
 - 1. Electronic copy shall be emailed to the Architect.
- L. Shop drawings not requested by the Architect/Engineer shall be returned without action.
- M. Shop drawings will be marked as follows: Contractor shall take the following action for each respective marking:

1. REVIEWED FOR DESIGN CONTENT ONLY.
 2. REVIEWED AS NOTED – Final but Restricted Release; Contractor may proceed with fabrication, taking into account the necessary corrections on submittal and with Contract Documents.
 3. REVIEWED - REVISE AND RESUBMIT – Contractor will be required to resubmit shop drawings in their entirety. No fabrication or installation shall be started until shop drawings so marked have been completely revised, resubmitted, and marked by Architect.
- N. More than two reviews of each Shop Drawing, Product Data item, sample and similar submittals will be subject to a deductive change order to provide funds for compensating the Architect/Engineer for the additional review.

1.06 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information.
 - a. Manufacturer's printed recommendations.
 - b. Compliance with trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
 - a. Preliminary Submittal: Submit a preliminary single copy of Product Data where selection of options is required.
 3. Submittals: Submit electronic copy of each required submittal. The Architect will retain one and will return the other marked with action taken and corrections or modifications required.
 - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 4. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - a. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
 - b. Do not permit use of unmarked copies of Product Data in connection with construction.
- B. In compliance with the OSHA Hazard Communication Standard (1910.1200, 08-24-1987) Contractors shall post at the site MSDS (Material Safety Data Sheets) for ALL products classified as hazardous that their firm has knowledge that they will be furnishing, using, or storing on the jobsite during the duration of this Project in accordance with OSHA standards. At the completion of the project, the Contractor shall turn their "MSDS" information directly over to the Owner.

1.07 SAMPLES

- A. The Contractor shall submit to the Architect triplicate samples to illustrate materials or workmanship, colors, and textures, and establish standards by which the Work will be judged.
1. Submit full size, fully fabricated samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of

materials, color range sets, and swatches showing color, texture and pattern.

- a. Mount or display samples in the manner to facilitate review of qualities indicated. Prepared samples to match the Architect's sample. Include the following:
 - 1) Specification Section number and reference.
 - 2) Generic description of the sample.
 - 3) Sample source.
 - 4) Product name or name of the manufacturer.
 - 5) Compliance with recognized standards.
 - 6) Availability and delivery time.
- b. Submit samples for review of size, kind, color, pattern, and texture. Submit samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
 - 1) Where variation in color, pattern, texture, and other characteristic is inherent in the material or product represented, submit at least 3 multiple units that show approximate limits of the variations.
 - 2) Refer to other Specification Sections for requirements for samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
- B. By approving and submitting samples, the Contractor thereby represents that they have determined and verified materials, catalog numbers, and similar data, and that they have checked and coordinated each sample with the requirements of the Work and of the Contract Documents prior to submitting to the Architect.
- C. The Contractor shall resubmit the required number of correct or new samples until approved. The Contractor shall direct specific attention in writing or on resubmitted samples to revisions other than the changes requested by the Architect on previous submissions.
- D. The Architect will review samples but only for conformance with the design concept of the Project and with the information given in the Contract Documents. The Architect's review of a separate item shall not indicate approval of an assembly in which the item functions.
- E. The Architect's action shall not relieve the Contractor of responsibility for deviations from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing of the deviation at the time of submission and the Architect has given written approval to the specific deviation, nor shall the Architect's action relieve the Contractor from responsibility for errors or omissions in the samples.
- F. Unless otherwise specified, samples shall be in triplicate and of adequate size to show function, equality, type, color, range, finish, and texture of material. When requested full technical information and certified test data shall be supplied.
 1. Each sample shall be labeled, bearing material name and quality, the Contractor's name, date, project name, and other pertinent data.
 2. Transportation charges to and from the Architect's office must be prepaid on samples forwarded. Samples shall be retained by the Architect until the Work for which they were submitted has been accepted.
- G. Materials shall not be ordered until final review is received in writing from the Architect. Materials shall be furnished, equal in every respect to reviewed samples. Where color or shade cannot be guaranteed, the maximum deviation shall be indicated by the manufacturer. Work shall be in accordance with the final reviewed samples.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 33 00

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including amended General Conditions and other Division-1 Specification Sections, apply to work of this Section.

1.02 TEMPORARY EQUIPMENT AND WORK ITEMS

- A. Provide the following listed temporary equipment and work items; maintain and remove same at completion where applicable.
 - 1. Grounded UL approved extension cords from work area to power source and any additional lighting required to perform the work, and as required by applicable laws.
 - 2. Restoration of areas damaged by construction operations.
 - 3. Removal of snow, frost and ice for work continuance.
 - 4. Drinking water for own employees if otherwise not available.
 - 5. Receiving of materials at the site.
 - 6. Barricades for protection of people and property, including fall protection at roofs, warning signs, traffic control signs, flashers, etc., in addition to barricades.
 - 7. Acceptable fire protection within five feet (5') of any burning, welding, cutting, or soldering operations.
 - 8. Replace barricades removed for convenience or for access to the work.
 - 9. Materials hoisting systems as required to expedite the work.
 - 10. Ladders, scaffolding and similar items for own employees in addition to the facilities.

1.03 SPECIAL TOOL REQUIREMENTS

- A. Furnish all necessary power and hand tools to properly perform the work.
- B. Certain electrical power requirements will be furnished by the Electrical Contractor. It is the individual Contractor's responsibility to make their own arrangements with the Electrical Contractor in the event special power requirements are needed for their special tools.

1.04 TEMPORARY ELECTRICITY

- A. Connect to existing service. Do not disrupt the Owner's need for continuous service.
- B. The energy cost of power consumed during construction shall be paid by the Owner.

1.05 FIRE PROTECTION

- A. Provide adequate fire protection and fire prevention for the Project and in no case less than that required by applicable federal law(s).
 - 1. Minimum provisions, unless otherwise required by law(s), shall be 10# capacity ABC type fire extinguishers, plainly marked and easily accessible, in each area where work is in progress.

1.06 TELEPHONE, INTERNET, COPYING, SCANNING AND PRINTING SERVICE

- A. Provide, maintain and pay for telephone and internet service to the field office at the time of project mobilization.
- B. Provide and maintain a device capable of copying, scanning and printing that is connected to the Job Superintendent's computer while at the field office.

1.07 TEMPORARY WATER SERVICE

- A. The Building Owner's existing water source may be used for construction operations so long as backflow prevention devices, or other contamination prevention devices, are used at each connection. The Owner will pay cost of water used.
- B. Provide drinking water in approved sanitary containers and disposable cups for workers.
- C. Extend branch piping with outlets located so that water is available by use of hoses with threaded connections.

1.08 FIELD OFFICES AND SHEDS

- A. The General Contractor, will provide and maintain a weathertight building or an office

trailer with:

1. Lighting, electrical outlets, heating, cooling and ventilating equipment, and equipped with furniture.
 2. Job telephone and telefacsimile as specified above.
 3. Space for Project meetings, with table and chairs to accommodate a minimum of 12 persons.
 4. Work table large enough to accommodate working drawings.
 5. Files, drawings, racks, and shelves to maintain order and neatness.
- B. Temporary structures required for offices, storage or other purposes in the performance of the Work, shall be located and erected only with approval of the General Contractor and Owner and shall be removed and the premises shall be cleaned of all debris when directed. The vacated area shall be restored to the original condition when necessary.
- C. All temporary work sheds and offices, if of combustible construction, shall be located at least thirty (30) feet from the building.
- D. Subcontractors requiring power to temporary structures will make their own arrangements for such power.
- E. Relocation costs by SUBCONTRACTOR if needed or directed by General Contractor.

1.09 TEMPORARY SANITARY FACILITIES

- A. Provide portable type toilets; "Saniprep" units, or approved equal facilities for entire duration of the project.
- B. Adequate facilities shall be provided for all workers on the Project and in no case less than those required by applicable federal law(s).
- C. This Contractor will provide necessary paper goods and soap.
- D. Keep facilities clean and sanitary.

1.10 SECURITY ENCLOSURES

- A. Construction aids
1. Provide and maintain temporary gang ladders, stairs, ramps, runways, platforms and other such facilities and equipment for proper access to the Work for all Contracts, and in no case less than those required by applicable Federal, State, and local law(s).
 2. When permanent stair framing is in place, provide temporary treads, platforms and railings for use by construction personnel.
- B. Temporary enclosures
1. Provide reinforced plastic or plywood covered frames for window openings and hinged plywood or batten doors with locks to maintain temperatures necessary to perform the work and provide security.
 - a. Provide protection against all kinds of adverse weather so that the building and materials will not be damaged, and against unauthorized entry.
 - b. Protection shall be provided well in advance of finishing operations.
 2. Provide temporary enclosures to separate work areas from finished areas and from areas occupied by Owner to prevent penetration of dust or moisture into finished and occupied areas, and to protect the public from construction work.
 - a. Temporary partition and ceiling enclosures: framing and sheet materials which comply with structural and fire rating requirements of applicable codes and standards.
 - b. Close joints between sheet materials, and seal edges and intersections with existing surfaces, to prevent penetration of dust or moisture.
 - c. Insulation rating: R-19 or greater insulation between studs
 - d. Finish: Paint surfaces exposed to view in Owner occupied areas to match surrounding.
- C. Relocation and removal:
1. Relocate as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of Owner and other

- contractors employed at the site.
- 2. Completely remove when construction needs can be met by use of permanent construction.
- 3. Clean and repair damage caused by installation or by use.
- 4. Restore existing facilities used for temporary purposes as specified or to original condition.
- 5. Restore permanent facilities used for temporary purposes to specified condition.

1.11 MAINTAINMENT OF EGRESS

- A. Where renovation or construction is underway in any means of egress, inspect daily to insure such areas are maintained free of all obstructions or impediments so that full and instant use would be available in the case of fire or other emergency.
- B. Insure that means of egress not affected by construction or renovation are not obstructed by construction equipment or materials.
- C. Comply with NFPA 241, "Standard for Safeguarding Construction, Alteration, and Demolition Operations".

1.12 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual specifications sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floor from traffic, dirt, wear damage, or movement of heavy objects, by protecting with durable sheet materials.

1.13 PROGRESS CLEANING AND WASTE CONTROL

- A. Maintain areas free of waste materials, debris and rubbish.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of finish work. Maintain areas free of dust and other contaminants during finishing operations.
- D. Collect and remove waste materials, debris and rubbish from the site, and periodically dispose of site.

1.15 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials and services prior to the Final Application for Payment inspection.
- B. Clean and repair damage caused by installation or use of temporary items. Remove underground installations to a depth of two feet and grade as indicated or to match existing adjacent areas.
- C. Restore permanent facilities used during construction to specified condition.
- D. Restore existing facilities used during construction to original condition, unless specified otherwise.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 01 50 00

SECTION 01 56 26

TEMPORARY FENCING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including amended General Conditions and other Division 1 Specification Sections, apply to work of this Section.

1.02 SCHEDULING

- A. Provide temporary fencing to outline limits of site usage prior to start of other work as directed by the General Contractor.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Fencing to be six (6) feet high chain link with gates. Fabric to be 9 ga. galvanized wire mesh, or fencing shall be new plastic snow-type fencing, four (4) feet high, with 2x4 wood top rail. Posts shall be heavy-duty studded steel T-posts, 1-3/8" x 1-3/8" x 7/64" thick by 4' tall.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Chain link
 1. Install construction perimeter fencing as directed by the General Contractor.
 2. Space posts ten (10) feet o.c. and drive three (3) feet into ground. Fasten fence to each post with five (5) fasteners.
 3. Provide gate posts and gates for two (3) 20'-0" wide openings (each opening to contain two (2) 10'-0" leaves) with forked type of plunger type latch to permit operation from either side of gate with padlock eye as an integral part of latch.
- B. Plastic
 1. Install construction perimeter fencing as directed by the General Contractor.
 2. Space posts eight (8) feet o.c. and drive three (3) feet into ground. Fasten fence to each post with five (5) fasteners.
 3. Fence to incorporate continuous wood top rail (2x4). Fasten fence to top rail

3.02 MAINTENANCE

- A. Maintain fencing in good repair until completion of the Project unless directed otherwise by the General Contractor.
- B. Relocate fencing if necessary due to construction progress when directed by the General Contractor.
- C. Remove fencing from site when directed by the General Contractor.

END OF SECTION 01 56 26

SECTION 01 58 13

TEMPORARY PROJECT SIGNAGE

PART 1 – GENERAL

1.01 RELATED SECTIONS

- A. Section 06 10 00 – Rough Carpentry

1.02 PROJECT SIGNAGE

- A. The Contractor shall provide, install and maintain a project informational sign through their normal source.
- B. Sign will be located in a location visible to public as directed by the Owner & Architect.
- C. PDF or Adobe Illustrator Files are available from Iowa Economic Development's website
 - 1. <https://www.iowaeconomicdevelopment.com/downloads>
- D. Below is an example of the sign. Note that the color notes, and notes are not to be printed.
 - 1.

TEMPORARY CONSTRUCTION SIGN FOR JOINTLY-FUNDED PROJECTS

White Background

Sign Dimensions: 1200 mm x 2400 (approx. 4' x 8' x 3/4") PLYWOOD PANEL (APA RATED A-B GRADE-EXTERIOR)
TEMPLATE BELOW IS HALF-SIZE

Project Title

Sponsor/Developer

Officials(s) or Sponsor Address

Architect or Engineer

(second line)

Contractor

(second line)

Project Financed by:
Community Development Block Grant
Iowa Economic Development Authority

This institution is an equal opportunity provider.

CDBG
Community Development Block Grant

IOWA
Economic Development

PART 2 – Products

2.01 PLYWOOD PANEL

- A. APA Rated: A-B Grade Exterior
- B. Project sign to have the minimum dimensions
 - 1. Thickness: 3/4 inch.
 - 2. Height: 48 inches.
 - 3. Width: 96 inches.

2.02 POSTS

- A. Two – 4 inch by 4 inch, 8 feet long wood preservative-treated posts set no less than 36

inches into the ground.

2.03 FASTENERS

- A. Use exterior grade screws to connect the plywood panel to the wood posts. Space fasteners no greater than 12 inches apart.

END OF SECTION 01 58 13

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the following administrative and procedural requirements governing the Contractor's selection of products for use in Project.
 - 1. Product standards and quality.
 - 2. Substitutions
 - 3. Manufacturer's directions.
 - 4. Warranties.
 - 5. Material delivery and responsibilities.
 - 6. Protection.
 - 7. Acceptance of equipment or systems.
 - 8. Product Options.

1.02 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, which is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.
- D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- E. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- F. Furnish: To supply and deliver, unload, inspect for damage (same as supply).
- G. Install: To unpack, assemble, erect, apply, place, connect, finish, cure, protect, clean, and ready for use.
- H. Provide: To furnish or supply, plus install.
- I. Supply: To supply and deliver, unload, inspect for damage (same as furnish).

1.03 SUBMITTALS

- A. Substitution Requests: Submit one electronic copy of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 10 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - a. Form of Acceptance: Change Order.

1.04 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
 - 1. The Contractor and subcontractors are responsible for providing products and construction methods compatible with products and construction methods of other subcontractors.
 - 2. If a dispute arises between subcontractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 - 5. Store products of the site in a manner that will facilitate inspection and measurement of quality or counting of units.
 - 6. Store materials in a manner that will not endanger Project structure.
 - 7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
- B. Storage: Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.06 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Prime Contractor of obligations under requirements of the Contract Documents.
- B. Special Warranties: Prepare a written and electronic copy document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: Forms are included with the Specifications. Prepare a written document using appropriate form properly executed.
 - 3. Refer to Divisions 2 through 48 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.01 PRODUCT STANDARDS AND QUALITY

- A. The Contract is based on the materials, equipment, and methods described in the Contract Documents.
- B. Where in the Drawings and Specifications certain products, manufacturer's trade names, or catalog numbers are given, it is done for the expressed purpose of establishing a basis of quality, durability, and efficiency of design in harmony with the work outlined and is not intended for the purpose of limiting competition.
- C. The Architect will consider proposals for substitution of materials, equipment, and methods only when such proposals are accompanied by full and complete technical data and all other information required by the Architect to evaluate the proposed substitution.
- D. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved for this Work by the Architect.
- E. "Or equal":
 - 1. Where the phrase "or equal" or "or equal as approved by the Architect" occurs in the Contract Documents, do not assume that material, equipment, or methods will be approved as equal by the Architect unless the item has been specifically approved for this Work by the Architect in an Addendum.
 - 2. The decision of the Architect shall be final.
- F. Availability of Specified Items:
 - 1. Verify prior to bidding that specified items will be available in time for installation during orderly and timely progress of the Work.
 - 2. In the event specified item or items will not be so available, so notify the Architect prior to receipt of bids.
 - 3. Costs of delays because of nonavailability of specified items, when such delays could have been avoided by the Contractor, will be back charged as necessary and shall not be borne by the Owner.
- G. Where the questions of appearance, artistic effect, or harmony of design are concerned, the Architect reserves the right to refuse approval of substituted products proposed to be substituted for that specified, if in his or her opinion the item to be substituted is not harmonious to the finished effect and appearance desired, as portrayed in the Drawings and Specifications. The Architect's said refusal to approve, established by this paragraph, is final and not subject to arbitration.

2.02 SUBSTITUTIONS

- A. Substitutions: Changes in products, materials of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests of substitutions. The following are not considered to be requests for substitutions.
 - 1. Substitutions requested during the bidding period, accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
 - 2. Revisions to the Contract Documents requested by the Owner or Architect.
 - 3. Specified options of products and construction methods included in the Contract Documents.
 - 4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.
- B. Conditions: The Architect will receive and consider the Contractor's request for substitution when the following conditions are satisfied, as determined by the Architect. If the following conditions are not satisfied, the Architect will return the requests without action except to record noncompliance with these requirements:
 - 1. Substitution requests, **including all required documentation**, must be emailed to the Project Leader at the Architects office no later than the date indicated in the specifications. Requests submitted late will not be considered. Contact information can be found on the Curtis Architecture website:

2. The Curtis Architecture & Design PC “Substitution Request Form,” provided at the end of this section, must be used for each product submitted for consideration.

3. The Individual or Firm requesting a substitution must document that the requested substitution is equal or superior to the specified product. Failure to provide clear, accurate, and adequate documentation will be grounds for rejection. Any re-submittal will be handled as a new request.

4. Required documentation shall consist of applicable information which would aid the Architect in making an informed decision. Include **side-by-side product comparisons**, technical data, laboratory test results, product drawings, etc. References shall include three projects which are from one to two years old, and three projects older than five years. Provide a list of references with the owner’s contact name and telephone number.

5. If use of the proposed product would result in changes to the design of the building, the submittal shall describe fully the changes required to the drawings or specifications. Any cost differences resulting from modifications to the drawings and specifications and the cost of making the changes shall be borne by the Product Supplier.

6. **No** product will be considered “as equal” to the product specified until it has been included as an allowable substitution in a written Addendum to the project.

7. The decision of the Architect is final.

2.03 MANUFACTURER’S DIRECTIONS

- A. Manufactured products shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer’s printed directions, unless herein specified to the contrary. Where manufacturer’s printed directions are available and where reference is made to manufacturer’s directions in the Specifications, the Contractor shall submit two (2) copies of such directions through the General Contractor to the Architect prior to the beginning of Work covered thereby.
- B. Where specific installation instructions are not part of these Specifications and Drawings, equipment shall be installed in strict accordance with instructions from the respective manufacturers. Where installation instructions included in these Specifications or Drawings are at a variance with instructions furnished by the equipment manufacturer, the Contractor shall make written request for clarification from the Architect.
- C. In accepting or assenting to the use of apparatus or material, or make, or arrangement thereof, the Architect in no way waives the requirements of these Specifications or the warranty embodied therein.

2.04 WARRANTIES

- A. Specific warranties or bonds called for in the Contract Documents, in addition to that falling under the general warranty as set forth in General Conditions, shall be furnished in accordance with the requirements of the Specifications.
 - 1. Manufacturer’s disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer’s disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

2. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - a. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- B. Each Contractor shall and does hereby agree to warrant for a period of one (1) year, or for longer periods, where so provided in the Specifications, as evidenced by the date of Substantial Completion issued by the Architect, products installed under the Contract to be of good quality in every respect and to remain so for periods described herein.
- C. Should defects develop in the aforesaid Work within the specified periods, due to faults in products or their workmanship, the Contractor hereby agrees to make repairs and do necessary Work to correct defective Work to the Architect's satisfaction, in accordance with the amended General Conditions. Such repairs and corrective Work, including costs of making good other Work damaged by or otherwise affected by making repairs or corrective Work, shall be done without cost to the Owner and at the entire cost and expense of the Contractor within 14 days after written notice to the Contractor by the Owner.
 1. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
 2. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- D. Nothing herein intends or implies that the warranty shall apply to Work which has been abused or neglected or improperly maintained by the Owner or his or her successor in interest.
- E. Where service on products is required under this Article, it shall be promptly provided when notified by the Owner and no additional charge shall be made, unless it can be established that the defect of malfunctioning was caused by abuse or accidental damage not to be expected under conditions of ordinary wear and tear.
- F. In the event movement in the adjoining structure or components causes malfunctioning, the Contractor responsible for the original installation of the adjoining structure or components shall provide such repair, replacement, or correction necessary to provide for proper functioning to bring the equipment back into the same operating condition as approved at the completion of the building.
- G. The manufacturer and supplier expressly warrants that each item of equipment furnished by them and installed in this Project is suitable for the application shown and specified in the Contract Documents and includes features, accessories, and performing characteristics listed in the manufacturer's catalog in force on the date bids are requested for the Work. This warranty is intended as an assurance by the manufacturer that his or her equipment is not being misapplied and is fit and sufficient for the service intended. This warranty is in addition to and not in limitation of other warranties or remedies required by law or by the Contract Documents. It shall be the responsibility of the Contractor for the particular equipment to obtain this warranty in writing.
- H. In case the Contractor fails to do Work so ordered, the Owner may have work done and charge the cost thereof against monies retained as provided for in the Agreement and, if said retained monies shall be insufficient to pay such cost or if no money is available, the Contractor and his or her Sureties shall agree to pay to the Owner the cost of such Work.

2.05 MATERIAL DELIVERY AND RESPONSIBILITIES

- A. Each Contractor shall be responsible for materials he orders for delivery to the jobsite. Responsibility includes, but is not limited to, receiving, unloading, storing, protecting, and setting in place; ready for final connections. Each Contractor will coordinate jobsite storage with the General Contractor.
 - 1. The Owner will not be responsible for deliveries related to the construction or operation of the Contractor. The Owner cannot sign delivery forms for the Contractor.
- B. Contractors shall ensure that products are delivered to the Project in accordance with the Construction Schedule of the Project. In determining date of delivery, sufficient time shall be allowed for shop drawings and sample approvals, including the possibility of having to resubmit improperly prepared submittals or products other than those specified and the necessary fabrication or procurement time along with the delivery method and distance involved.

2.06 PROTECTION

- A. Each Contractor shall protect building elements and products when subject to damage. Should workers or other persons employed or commissioned by one Contractor be responsible for damage, the entire cost of repairing said damage shall be assumed by said individual Contractor. Should damage be done by a person or persons not employed or commissioned by a Contractor, the respective Contractors shall make repairs and charge the cost to the guilty person or persons. The affected Contractors shall be responsible for collecting such charges. If the person or persons responsible for damage cannot be discovered, full and satisfactory repairs shall be made by the respective Contractor, and the cost of Work shall be prorated against each Contractor.
- B. The respective Contractors shall protect their products prior to installation and final acceptance. Storage shall be dry, clean, and safe. Materials or equipment damaged, deteriorated, rusted or defaced due to improper storage, shall be repaired, refinished, or replaced, as required by the Architect. Products lost through theft or mishandling shall be replaced by the Contractor without cost to the Owner.

2.07 ACCEPTANCE OF EQUIPMENT OR SYSTEMS

- A. The Owner will not accept the start of the warranty period on systems or equipment until Substantial Completion is issued to the respective Contractor(s) for Owner's occupancy of the building, in part or whole. Each Contractor shall make such provisions as required to extend the manufacturer's warranty from time of initial operation of systems or equipment until Substantial Completion is given in writing.

2.08 PRODUCT OPTIONS

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
 - 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
- B. Product Selection Procedures: Procedures for product selection include the following:
 - 1. Product: Where Specification paragraphs or subparagraphs titled "Product" name a single product and manufacturer, provide the product named.

- a. Substitutions may be considered, unless otherwise indicated.
 - 2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturer or from the source named that complies with requirements.
 - a. Substitutions may be considered, unless otherwise indicated.
 - 3. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
 - a. Substitutions may be considered, unless otherwise indicated.
 - 4. Where Specifications name a product as the "basis-of-design" and include a list of manufacturers, provide the named product. Comply with provisions for "comparable product requests" for consideration of an unnamed product by the other named manufacturers.
 - 5. Where Specifications name a single product as the "basis-of-design" and no other manufacturers are named, provide the named product. Comply with provisions for "comparable product requests" for consideration of an unnamed product by another manufacturer.
- C. Unless otherwise indicated, selections of each product shall be made from manufacturer's full range of options that includes both standard and premium colors, patterns and textures.

PART 3 - EXECUTION (Not Used)

Substitution Request Form -

Architect Project No: _____ Bid Date: _____

Date of Request: _____ Project Name: _____

SUBSTITUTION REQUEST BY:

Firm: _____ Phone: _____

Address: _____

Email: _____

We hereby request that the following Substitution be allowed in lieu of the Product specified on the above project.

SPECIFIED PRODUCT _____

SPECIFICATION SECTION _____

PROPOSED PRODUCT SUBSTITUTION _____

This request includes the following: attached Technical Data, Laboratory Tests and proposed changes to the Drawings and Specifications, which the proposed Substitution will require for proper installation.

The Firm requesting the Substitution agrees to pay for changes to the building design, including Architectural, Engineering, and detailing costs caused by the requested Substitution.

YES ____ NO ____ NOT APPLICABLE ____

What effect does the Substitution have on other trades?

Date _____

___ Failed to Provide Adequate Information

Date : _____

January 16th, 2026
Page 108

SECTION 01 70 00

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.01 CLEANING

- A. Disposal Requirements:
 - 1. General Contractor shall provide and maintain waste disposal containers suitable for temporary storage and disposal of construction debris, excess materials and waste material.
 - 2. General Contractor shall regularly have waste materials removed from the Construction Site and disposed of in an approved manner at an approved disposal site.
 - 3. Subcontractors shall conduct cleaning and disposal operations to comply with codes, ordinances, regulations and antipollution laws.
- B. Materials:
 - 1. Use only those cleaning materials which will not create hazards to health or property and that will not damage surfaces.
 - 2. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
 - 3. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.
- C. During Construction:
 - 1. General Contractor and each Subcontractor shall weekly:
 - a. Dispose of accumulated debris and waste in containers provided by General Contractor.
 - b. Broom clean current weeks work area and pick up rubbish and debris on the Construction Site.
 - 2. Scrap material still suitable for use shall be properly stored in a neat manner, otherwise such material shall be removed from the project site.
 - 3. Take steps as necessary to prevent construction debris from blowing onto adjacent sites. Promptly pick-up and remove any debris.
- D. Dust Control:
 - 1. General Contractor shall clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished. Subcontractors shall minimize dust generation in finished areas and shall clean such areas if required.
 - 2. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.
- E. Final Cleaning: By General Contractor
 - 1. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels and other foreign materials from sight-exposed interior and exterior surfaces.
 - 2. Wash and shine glazing and mirrors. Polish glossy surfaces to a clear shine.
 - 3. Vacuum floors and leave all items in condition for Owner occupancy.
 - 4. Prior to Owner occupancy, conduct an inspection of sight-exposed surfaces and all work areas to verify that the entire work is clean.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

- B. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work
 - b. List of detrimental conditions
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.02 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.03 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to layout the Work, verify layout information showing on Drawings, in relation to property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

3.04 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produces harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm

that adequate provisions are made for locating and installing products to comply with indicated requirements.

- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.05 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

3.06 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturers written instructions for temperature and relative humidity.

3.07 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching." Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF EXECUTION REQUIREMENTS 01 70 00

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including amended General Conditions and other Division-1 Specification Sections, apply to work of this Section.

1.02 CUTTING AND PATCHING

- A. Definition: "Cutting and Patching" includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.
 - 1. "Cutting and patching" is performed for the coordination of the Work, to uncover work for access or inspection, to permit alterations to be performed or for other similar purposes.
 - 2. Cutting performed during the manufacture of products, or during the initial fabrication, erection or installation process is not considered to be "cutting and patching". Drilling of holes to install fasteners and similar operations is also not considered to be "cutting and patching".
 - 3. "Demolition" and "Selective Demolition" are recognized as related – but – separate categories of work, which may or may not require cutting and patching as defined in this Section; refer to "Demolition" and "Selective Demolition" Sections of Division 2.
 - 4. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.
- B. Refer to other Sections of these Specifications for specific cutting and patching requirements and limitations applicable to individual units of work.
 - 1. Unless otherwise specified, requirements of this Section apply to mechanical and electrical work. Refer to Mechanical and Electrical Sections for additional requirements and limitations on cutting and patching of mechanical and electrical work.

1.03 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural work in a manner that would result in a reduction of load-carrying capacity or of load-deflection ratio.
- B. Before cutting and patching the following categories of work, obtain the Architect/Engineer's approval to proceed with cutting and patching as described in the procedural proposal for cutting and patching:
 - a. Structural steel.
 - b. Miscellaneous structural metals, including lintels, equipment supports, stair systems and similar categories of work.
 - c. Structural concrete.
 - d. Foundation construction.
 - e. Timber and primary wood framing.
 - f. Bearing and retaining walls.
 - g. Structural decking.
 - h. Piping, ductwork, vessels and equipment.
 - i. Structural systems of special construction, as specified by Division-13 Sections.
- C. Operational and Safety Limitations: Do not cut and patch operational elements or safety related components in a manner that would result in a reduction of their capacity to perform in the manner intended, including energy performance, or that would result in increased maintenance, or decreased operational life or decreased safety.
- D. Obtain the Architect/Engineer's approval to proceed with cutting and patching as proposed in the proposal for cutting and patching, and similar work elements.
- E. Visual Requirements: Do not cut and patch work exposed on the building's exterior or in its occupied spaces, in a manner that would, in the Architect/Engineer's opinion result in

lessening the building's aesthetic qualities. Do not cut and patch work in a manner that would result in substantial visual evidence of cut and patch work. Remove and replace work judged by the Architect/Engineer to be cut and patched in a visually unsatisfactory manner.

1.04 SUBMITTALS

- A. Procedural Proposal for Cutting and Patching: Where prior approval of cutting and patching is required, submit proposed procedures for this work well in advance of the time work will be performed and request approval to proceed. Include the following information, as applicable, in the submittal:
1. Describe nature of the work and how it is to be performed, indicating why cutting and patching cannot be avoided. Describe anticipated results of the work in terms of changes to existing work, including structural, operational and visual changes as well as other significant elements.
 2. List products to be used and firms that will perform work.
 3. Give dates when work is expected to be performed.
 4. List utilities that will be disturbed or otherwise affected by work, including those that will be relocated and those that will be out of service temporarily. Indicate how long utility service will be disrupted.
 5. Where cutting and patching of structural work involves the addition of reinforcement, submit details and engineering calculations to show how that reinforcement is integrated with original structure to satisfy requirements.
 6. Approval by the Architect/Engineer to proceed with cutting and patching of work does not waive the Architect/Engineer's right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. General: Except as otherwise indicated, or as directed by Architect/Engineer, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal or better performance characteristics.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.
1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Temporary Support: To prevent failure, provide temporary support of work to be cut.
- B. Protection: Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the Project that may be exposed during cutting and patching operations.
1. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- C. Take precautions not to cut existing pipe, conduit or duct serving the building but scheduled to be relocated until provisions have been made to bypass them.

3.03 PERFORMANCES

- A. General: Employ skilled workmen to perform cutting and patching work. Except as otherwise indicated or as approved by the Architect/Engineer, proceed with cutting and patching at the earliest feasible time and complete work without delay.

- B. Cutting: Cut the work using methods that are least likely to damage Work to be retained or adjoining Work. Where possible, review proposed procedures with the original installer; comply with original installer's recommendations.
 - 1. In general, where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to ensure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.
 - 2. Comply with requirements of applicable Section of Division 2 where cutting and patching is required in excavating and backfilling.
 - 3. Bypass utility services such as pipe and conduit, before cutting, where such utility services are shown or required to be removed, relocated, or abandoned. Cut-off conduit and piping in wall or partitions to be removed. After bypass and cutting, cap, valve or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.
- C. Patching: Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of work.
 - 2. Restore exposed finishes of patched areas and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition
 - 3. Where removal of walls or partitions extends from one finished area into another finished area, patch and repair floor and wall surfaces in the new space to provide an even surface or uniform color and appearance. If necessary to achieve uniform color and appearance, remove existing floor and wall coverings and replace with new materials.
 - a. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch after patched area has received Sub and base coat.
 - 4. Ceilings: Patch, repair or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 - 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- D. Plaster installation: Comply with manufacturer's instructions and install thickness and coats as indicated.
 - 1. Unless otherwise indicated, provide 3-coat work.
 - 2. Finish gypsum plaster with smooth-troweled finish.
 - 3. Cut, patch, pointup and repair plaster as necessary to accommodate other work and to restore cracks, dents, and imperfections.

3.04 CLEANING

- A. Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely paint, mortar, oils, putty, items of similar nature. Thoroughly clean piping, conduit, and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 01 73 29

SECTION 01 74 13

PROGRESS CLEANING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including amended General Conditions and other Division 1 Specification Sections, apply to work of this Section.

1.02 PURPOSE

- A. The purpose of this Section is to define and emphasize the responsibilities of the General Contractor and each Subcontractor to remove rubbish and debris from the construction area caused by their work as follow:
 - 1. Each Subcontractor shall execute housekeeping to keep their work, the site and adjacent properties free from accumulations of construction operations and as follows:
 - a. Clean up all waste materials, rubbish and debris resulting from his or her own operations at such frequencies as required by the General Contractor; but as a minimum on a daily basis.
 - b. Place waste materials, rubbish and debris outside the building in rubbish containers, as provided under Section 01 74 19.
 - c. Repair, patch, and touch up marred surfaces to match adjacent finishes damaged by his or her own operations.
 - d. Leave all work areas in a "broom clean" condition at the completion of their work for the day.
 - e. Participate in joint clean up as directed by the General Contractor.
 - 2. The General Contractor shall be responsible for the following items of cleaning and debris control:
 - a. Oversee cleaning and ensure the building and grounds are maintained free from accumulations of waste materials, rubbish, and debris.
 - b. The General Contractor may, from time to time schedule joint trade clean-up times in which all Subcontractors shall provide labor, in proportion to the manpower employed during the time period, to clean up all debris.
 - 3. Each Subcontractor is financially responsible for their own clean-up operations. Cleanup must be timely as well as thorough in order to meet safety regulations and permit other Subcontractors to perform without hindrance from dirt and debris. Subcontractors failing to meet housekeeping requirements will be charged for services arranged by the General Contractor. The General Contractor reserves the right to proceed with clean up at the Subcontractor's expense with a twenty-four hour written notice (which may be faxed).
 - 4. The cost of this work shall be included in the Subcontractor's Bid and must appear as a line item on the "Schedule of Values" as 1% of the total contract amount.
- B. Each Friday afternoon, and more often if necessary, the Contractors shall perform an overall cleanup of the entire Project, including a broom cleaning. Each Contractor will be required to provide one (1) worker for two (2) hours minimum to participate in general building and site clean-up. This work will be directed by the General Contractor. Rubbish Containers will be provided per Section 01 74 19.

1.03 SAFETY REQUIREMENTS

- A. Hazards Control
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.

- B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on Project site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm of sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.
- C. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- D. Use sweeping compound when broom-cleaning concrete floors for dust control.
- E. Each Contractor shall provide his own cleaning materials and equipment.

PART 3 – EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute cleaning to ensure that building, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. Daily during progress of work, clean site and public properties and dispose of waste materials, debris and rubbish in dumpster type rubbish container provided under Section 01 74 19.
- D. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- E. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
- F. Place no new work on dirty surfaces.

END OF SECTION 01 74 13

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT & DISPOSAL

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes: Administrative and procedural requirements for construction waste management activities.
- B. Bulk debris from Demolition, Concrete, Masonry, Roofing, or other activities that create bulk waste shall be removed by the respective contractor. The General Contractor will maintain dumpsters for general waste and miscellaneous recyclable materials for use by all. Wood scraps, drywall scraps, boxes, cut ends of material and similar shall be considered general waste and can be placed in these dumpsters. All trash must be sorted by type by the trade that produced it and properly placed in the respective dumpster. Boxes must be broken down before being placed in the proper dumpster.

1.02 DEFINITIONS

- A. Construction, Demolition, and Land-clearing (CDL) Waste: Includes all non-hazardous solid wastes resulting from construction, remodeling, alterations, repair, demolition and land-clearing. Includes material that is recycled, reused, salvaged or disposed as garbage.
- B. Salvage: Recovery of materials for on-site reuse, or offsite sale or donation to a third party.
- C. Reuse: Making use of a material without altering its form. Materials can be reused on-site or reused on other projects off-site. Examples include, but are not limited to the following: Grinding of concrete for use as sub-base material. Chipping of land-clearing debris for use as mulch.
- D. Recycling: The process of sorting, cleaning, treating, and reconstituting materials for the purpose of using the material in the manufacture of a new product.
- E. Source-Separated CDL Recycling: The process of separating recyclable materials in separate containers as they are generated on the job-site. The separated materials are hauled directly to a recycling facility or transfer station.
- F. Co-mingled CDL Recycling: The process of collecting mixed recyclable materials in one container on-site. The container is taken to a material recovery facility where materials are separated for recycling.
- G. Approved Recycling Facility: Any of the following:
 - 1. A facility that can legally accept CDL waste materials for the purpose of processing the materials into an altered form for the manufacture of a new product.
 - 2. Material Recovery Facility: A general term used to describe a waste-sorting facility. Mechanical, hand-separation, or a combination of both procedures, is used to recover recyclable materials. Co-mingled containers are to be taken to a material recovery facility with at least a 50% co-mingled recycling rate.

1.03 SUBMITTALS

- A. Waste Management Plan: Submit plan within seven days of date established for the Notice to Proceed.
- B. Waste Management Report: Submit report concurrent with the final Application for Payment.

1.04 PERFORMANCE REQUIREMENTS

- A. General: The project has a target of diverting 50% of construction waste from the landfill by a combination of the following activities:
 - 1. Salvage
 - 2. Reuse
 - 3. Source-Separated CDL Recycling
 - 4. Co-mingled CDL Recycling
- B. It is expected that if an item can be recycled or diverted that it will be, unless cost

prohibitive. Failure to take reasonable steps to meet the project goals shall be considered a breach of contract. CDL waste materials that can be salvaged, reused or recycled include, but are not limited to, the following:

1. Asphalt
2. Drywall Scraps
3. Cardboard
4. Carpet
5. Ceiling Tile
6. Asphalt shingles
7. Concrete
8. Metals
9. Window glass
10. Wood
11. Field office waste, including office paper, aluminum cans, glass, plastic, and office cardboard.

1.05 QUALITY ASSURANCE

- A. Regulatory Requirements: Conduct construction waste management activities in accordance with the State of Iowa and all applicable laws and ordinances.
- B. Preconstruction Conference: Review methods and procedures related to waste management including, but not limited to, the following:
 1. Review and discuss waste management plan.
 2. Review requirements for documenting quantities of each type of materials that will be salvaged, recycled or disposed of as waste.
 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 5. Review waste management requirements for each trade.

1.06 WASTE MANAGEMENT PLAN

- A. General: Contractors to develop plan consisting of waste types, quantity by weight, methods of disposal, handling and transportation procedures. Include separate sections in plan for demolition and construction waste.
- B. Organize the waste management plan in accordance with the sample plan included at end of Part 3, including the following information:
 1. Types and estimated quantities, by weight, of CDL waste expected to be generated during demolition and construction.
 2. Proposed methods for CDL waste salvage, reuse, recycling and disposal during demolition including, but not limited to, one or more of the following:
 - a. Contracting with a deconstruction specialist to salvage materials generated
 - b. Selective salvage as part of demolition contractor's work
 - c. Reuse of materials on-site or off-site sale or donation to a third party.
 3. Proposed methods for salvage, reuse, recycling and disposal during construction including, but not limited to, one or more of the following:
 - a. Requiring subcontractors to take their CDL waste to a recycling facility
 - b. Contracting with a recycling hauler to haul recyclable CDL waste to an approved recycling or material recovery
 - c. Facility
 - d. Processing and reusing materials on-site
 - e. Self-hauling to a recycling or material recovery facility.
 4. Name of recycling or material facility receiving each of the CDL wastes.
 5. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project Site where material separation will be located.

1.07 WASTE MANAGEMENT REPORT

- A. Waste Management Report: Submit a cumulative waste management Report on the form included at end of Part 3 with the final Application for Payment with the following attachments:
1. A record of the type and quantity, by weight, of each material salvaged, reused, recycled or disposed.
 2. Total quantity of waste recycled as a percentage of total waste.
 3. Disposal Receipts: Copy of receipts issued by a disposal facility for CDL waste that is disposed in a landfill.
 4. Recycling Receipts: Copy of receipts issued by approved recycling facilities for co-mingled materials. Include weight tickets from the recycling hauler or material recovery facility and verification of the recycling rate for co-mingled loads at the facility.
 5. Salvaged Materials Documentation: Types and quantities, by weight, for materials salvaged for reuse on site, sold or donated to a third party.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 CONSTRUCTION WASTE MANAGEMENT, GENERAL

- A. Provide containers for CDL waste that is to be recycled clearly labeled as such with a list of acceptable and unacceptable materials. The list of acceptable materials must be the same as the materials recycled at the receiving material recovery facility or recycling processor.
- B. Provide containers for CDL waste that is disposed in a landfill clearly labeled as such.
- C. Use detailed material estimates to reduce risk of unplanned and potentially wasteful cuts.
- D. To the greatest extent possible, include in material purchasing agreements a waste reduction provision requesting that materials and equipment be delivered in packaging made of recyclable material, that they reduce the amount of packaging, that packaging be taken back for reuse or recycling, and to take back all unused product. Insure that subcontractors require the same provisions in their purchase agreements.
- E. Conduct regular visual inspections of dumpsters and recycling bins to remove contaminants.

3.02 SOURCE SEPARATION

- A. General: Separate recyclable materials from CDL waste to the maximum extent possible. Separate recyclable materials by type.
1. Provide containers, clearly labeled, by type of separated materials or provide other storage method for managing recyclable materials until they are removed from Project site.
 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 3. Stockpile materials away from demolition area. Do not store within drip line of remaining trees.
 4. Store components off the ground and protect from weather.

3.03 CO-MINGLED RECYCLING

- A. General: Do not put CDL waste that will be disposed in a landfill into a co-mingled CDL waste recycling container.

3.04 REMOVAL OF CONSTRUCTION WASTE MATERIALS

- A. Remove CDL waste materials from project site on a regular basis. Do not allow CDL waste to accumulate on-site.
- B. Transport CDL waste materials off Owner's property and legally dispose of them.
- C. Burning of CDL waste is not permitted.

END OF SECTION 01 74 19

SECTION 01 74 23

FINAL CLEANING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including amended General Conditions and other Division 1 Specification Sections, apply to work of this Section.

1.02 SAFETY REQUIREMENTS

- A. Hazards Control.
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes, which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.
- B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on Project site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 – EXECUTION

3.01 FINAL CLEANING

- A. Employ professional cleaners for final cleaning.
- B. In preparation for substantial completion or occupancy, conduct final inspection of interior and exterior surfaces and of concealed spaces.
- C. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from interior and exterior finished surfaces. Clean all surfaces exposed to the accumulation of dirt, dust or debris whether or not easily within sight.
- D. Clean all areas of glass.
- E. Broom clean paved surfaces; rake clean other surfaces of grounds.
- F. Maintain cleaning until Project, or portion thereof, is accepted by the Owner.
- G. Immediately bring to the attention of the General Contractor any items requiring repair that are discovered during the process of final cleaning.
- H. When final cleaning involves use of volatile or noxious products and there exists a possibility of fumes entering adjacent occupied areas, coordinate with Owner, through General Contractor, for additional ventilation requirements or a more acceptable time, including off hours, to perform the work.

END OF SECTION 01 74 23

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project Record Documents.
 - 3. Operation and maintenance manuals.
 - 4. Warranties.
 - 5. Instruction of Owner's personnel.
 - 6. Final cleaning.

1.02 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 9. Complete final cleaning requirements, including touchup painting.
 - 10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Owner or Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
 - 1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.03 CLOSE-OUT SUBMITTALS

- A. Record Documents
- B. Operations and Maintenance Manuals
- C. Energy Rebate Forms
 - 1. Complete & submit Energy Rebate Forms for the Owner.
- D. Warranties and Bonds
- E. Evidence of payment and release of liens.
- F. Shop Drawing File
- G. Verify extra supplies/stock.

- H. Other miscellaneous forms and submittals as required by Contract Documents
- I. Final Payment and Adjustment Of Accounts:
 - 1. Contractor shall submit a final statement of accounting.
 - a. Statement shall reflect all adjustments to the Contract Sum

1.04 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
 - 1. Submit a final Application for Payment.
 - 2. Submit certified copy of Owner's or Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Owner or Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner or Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.05 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.

1.06 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Owner or Architect's reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
 - 1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 - 3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 - 4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover

sheets.

- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Note related Change Orders and Record Drawings, where applicable.
- D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1.07 OPERATION AND MAINTENANCE MANUALS

- A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
 - 1. Operation Data: Include emergency instructions and procedures, system and equipment descriptions, operating procedures, and sequence of operations.
 - 2. Maintenance Data: Include manufacturer's information, list of spare parts, maintenance procedures, maintenance and service schedules for preventive and routine maintenance, and copies of warranties and bonds.
- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.
- C. Form Of Submittals:
 - 1. Prepare data in form of an instructional manual for use by Owner's personnel.
 - a. Assemble in 3 ring binders.
 - b. Provide separate binder each for Architectural, Mechanical and Electrical.
- D. Content Of Manual:
 - 1. Arrange manuals as follows. Provide tabs at main section and for each product/system.
 - a. ARCHITECTURAL
 - 1) Table of Contents
 - 2) Overall list of contractors and subcontractors on project with company name, address, contact person, phone number and system responsibility.
 - 3) Warranties, including mechanical and electrical for:
 - a) Membrane Roofing
 - b) Sheet Metal Work
 - c) Wood Doors
 - d) Glazing
 - e) As required by sections.
 - 4) Certifications/Reports:
 - a) Occupancy Permit.
 - b) Manufacturers Roof Inspection Report.
 - 5) Section on each product:
 - a) First sheet for each product section to list product,

specification /drawing reference, responsible subcontractor /installer, supplier including company name, contact person, address and phone of supplier and installer.

b) Refer to specification for list of information to be included for each product.

c) Architectural Manual to include, but not limited to, the following applicable products: Door hardware; Ceiling tile; VCT flooring; Paint schedule and formulations; Windows; Carpeting.

- b. MECHANICAL
- c. ELECTRICAL

1.08 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Owner or Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- C. Number of original signed copies required: Two each.
- D. Provide complete information for each item.
 - 1. Product or work item.
 - 2. Firm, with name of principal, address and telephone number.
 - 3. Date of beginning of warranty, bond or service maintenance contract.
 - 4. Duration of warranty, bond or service maintenance contract.
 - 5. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty or bond.
- E. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.09 EVIDENCE OF PAYMENT AND RELEASE OF LIENS

- A. Contractor's affidavit of payment of debts and claims: AIA G706.
- B. Contractor's Affidavit of Release of Liens: AIA G706A with:
 - 1. Contractor's release or waiver of liens.
 - 2. Separate releases of waivers of liens for subcontractors, suppliers and others with lien rights against property of Owner, together with list of those parties.
- C. All submittals shall be in duplicate and duly executed before delivery to Owner or Architect.
- D. General Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.01 DEMONSTRATION AND TRAINING

- A. Instruction: After substantial completion and prior to contract close-out, fully instruct Owner's designated operating and maintenance personnel in operation, adjustment and maintenance of products, equipment and systems.
 - 1. Provide instructors experienced in operation and maintenance procedures.
 - 2. Include manufacturer's representative when required.
 - 3. Where systems interface, schedule training session with all representatives to demonstrate/instruct on complete system.
 - 4. Operating and maintenance manual shall constitute the basis of instruction and shall be available during sessions. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.
 - 5. Provide instruction at mutually agreed-on times.
 - 6. Schedule training with Owner, through Architect, with at least seven days' advance notice.
 - 7. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline.
 - 1. Include instruction for system design and operational philosophy, review of documentation, operations, adjustments, troubleshooting, maintenance, and repair.

3.02 FINAL CLEANING

- A. Per Section 01 74 23

END OF CLOSEOUT PROCEDURES 01 77 00

**SECTION 02 25 19
EXISTING CONDITIONS**

MORTAR TESTS

1803 Pineacre Avenue
Davenport, Iowa 52803
November 13, 2025

Jacob Gockel, Principal Architect
Curtis Architecture
301 E Court Ave., suite #105
Des Moines, IA 50309

Dear Jacob:

Enclosed, please find the analysis, invoice, sand and fines concerning the set of five mortar samples from the Nevada Facade Rehabilitation Project in Nevada, Iowa. I trust that you will find all to be in order.

The four samples from Sixth Street were quite similar to each other. Of minor concern was the fact that all five samples came in a powdered condition. In some circumstances, the samples are mechanically ground out, thereby ruining the sand grain size distribution. If this is the case here, then please ignore the sand sieve analyses. The four Sixth Street samples all gave clear evidence of being made of sand and lime only with a probable ratio of three parts of sand to each part of lime. The K Street sample was a bit harder and had a prolonged reaction, indicating a possibility of Portland cement content. If the sand was not mechanically powdered, then care must be taken to match the sand as closely as possible.

Please feel free to contact me with any questions or comments you may have.

Sincerely,

David Arbogast

Enclosures

Mortar Analysis
Nevada Façade Rehabilitation Project
Nevada, Iowa
November 13, 2025

On Friday, November 7, 2025, David Arbogast, architectural conservator, of Davenport, Iowa received a set of five mortar samples from Jacob Gockel, Intern Architect, of Curtis Architecture in West Des Moines, Iowa. The samples were taken from buildings in the Nevada Façade Rehabilitation Project in Nevada, Iowa and were submitted for analysis to determine their composition.

The analysis utilized the acid digestion testing procedure developed by E. Blaine Cliver, former Regional Historical Architect of the North Atlantic Region of the National Park Service. This relatively simple procedure dissolves the lime and/or cement content of the mortar using a 20% solution of hydrochloric acid. The carbon dioxide released as a result of the reaction displaces water, which is then measured and used to calculate the soluble content of the mortar. The insoluble fines and sand remaining from the reaction are factored into the equation resulting in a final result. In the case of cement samples, the remaining fines are used to calculate the cement content of the mortar. The remaining sand is then carefully sieved and graded by grain size to provide a means of identification of the various sand types encountered.



The first sample was collected from 1122 Sixth Street. It was buff in color with no visible sand and a soft consistency. It should be noted that with all five samples, the hardness was difficult to discern as they had mostly been reduced to powder. There was a fast and bubbly reaction that resulted in a moderate water displacement of 0.79 liters. The sample filtered normally leaving a pale yellow-green filtrate. There was a moderate proportion of fines and their color was dark brown. They were most likely dirt associated with the sand. All of those factors are indicative of a mortar consisting of lime and sand only. The sand sieve analysis revealed moderately fine sand. All of it passed through the largest sieve with a breath under 1% stopped in the second largest sieve. 6 4/9% was left in the third largest sieve with a hair more than 18 4/5% halted in the fourth sieve. The fifth and finest sieve contained just a tad under 41 3/5% and finally a bit under 32 1/5% passed through all of the sieves to the base.



The second sample came from 1104 Sixth Street. It was brown, this time with some visible sand. As mentioned with the first sample, it was broken down to powder and was thus soft. It had a fast and bubbly reaction that resulted in another moderate water displacement, this time 0.74 liters. Filtering was normal and once more had a filtrate color of pale yellow-green. The fines were dark brown and were a rich enough color that there was likely a colorant used in the mortar. There was a larger proportion of fines than the previous sample. All those characteristics indicate a mortar consisting of lime and sand only. The sand sieve analysis revealed sand that was again moderately fine. All of it traveled through the largest sieve only with $1 \frac{2}{3}\%$ failing to pass through the second sieve. A bit over $7 \frac{1}{3}\%$ was halted in the third largest sieve with a tad over $20 \frac{3}{5}\%$ remaining in the fourth largest sieve. A breath more than $43 \frac{1}{8}\%$ was captured in the finest sieve with exactly $27 \frac{1}{4}\%$ traveling through all the sieves to the base.



The third sample was collected from 1110 Sixth Street. Its color was buff and contaminants, which appeared to be bits of paint and caulk, were removed prior to analysis. Like the first sample, it contained no visible sand and had the soft powdery consistency found throughout. There was a fast and bubbly reaction resulting in a moderately small water displacement of 0.64 liters. The sample filtered normally with the color of the filtrate being pale yellow-green. There was a moderate proportion of brown fines. The fines were most likely dirt associated with the sand. All of those qualities are indicative of a mortar consisting of lime and sand only. The sand sieve analysis revealed notably fine sand. The entirety of the sand passed through the largest sieve with a bit over $1/3\%$ kept back by the second largest sieve. A smidgen over $4 \frac{1}{7}\%$ failed to pass through the third largest sieve with a tad over $11 \frac{2}{5}\%$ stopped by the fourth largest sieve. $43 \frac{3}{5}\%$ was held in the finest sieve with somewhat under $40 \frac{1}{2}\%$ collected in the base.



The fourth sample was collected from 1038 Sixth Street. It was buff once more and again had no visible sand and the same consistency found in the set. There was a fast and bubbly reaction that resulted in a moderate water displacement of 0.81 liters. The sample filtered rapidly and had a yellow-green filtrate color, however unlike the previous (and following) samples, this filtrate was also noticeably cloudy. There was another moderate proportion of fines and they were buff like the sample. All of these factors indicate mortar consisting of lime and sand only. The sand sieve analysis showed sand that was coarser than the others. The entire sample passed through the largest sieve with a breath under $2 \frac{1}{8}\%$ remaining in the second largest sieve. The third largest sieve held back a bit under $11 \frac{2}{3}\%$ with a tad under $26 \frac{4}{9}\%$ trapped in the fourth largest sieve. Just under $39 \frac{4}{9}\%$ was captured in the finest sieve with a breath under $20 \frac{3}{8}\%$ collected in the base.

The fifth sample came from 526 & 532 K Street. This sample was buff once more and contained visible sand. The portions of the sample that were not powdery were moderately hard. Like the third sample, there were again contaminants removed (paint again). There was a fast and bubbly reaction which for the first time in the sample set, was followed by a prolonged reaction. This resulted in a moderately large water displacement of 0.94 liters, the largest in the sample set. The sample filtered rapidly and the filtrate was pale yellow-green. There was a much smaller proportion of fines than in the previous samples and they were buff. The fines were most likely dirt associated with the sand. All of the preceding factors are indicative of a mortar consisting of lime and sand only. The sand sieve analysis revealed moderate sand. The entirety passed through the largest sieve however, somewhat more than 3% was trapped in the second largest sieve. The third largest sieve retained a breath under $14 \frac{1}{7}\%$. A hair under $28 \frac{4}{5}\%$ was left in the fourth largest sieve with a bit under $36 \frac{8}{9}\%$ captured in the fifth and finest sieve. A smidgen over $17 \frac{1}{6}\%$ fell through all the sieves to the base.

Mortar/Plaster/Stucco Analysis Test Sheet

Sample No. 1
 Building: 1122 Sixth Street, Nevada, Iowa
 Location: Unidentified
 Sample Description: Buff, soft, fast and bubbly reaction, normal filtering

Test No. 1 – Soluble Fraction

Data:

1.	196.4	Container A weight	8.	no	Hair or fiber
2.	216.4	Container A and sample	9.	3.4	Fines and paper weight
3.	758.7	Barometric pressure (mm)	10.	2.5	Filter paper weight
4.	22	Temperature (°C)	11.	210.5	Sand and Container A weight
5.	0.79	Liters of water displaced	12.	9.2	cc. of sand
6.	pale yel.-grn.	Filtrate color	13.	22.1	Weight of graduated cylinder and sand
7.	dark brown	Fines color	14.	8	Weight of graduated cylinder

Computations:

15.	20.0	Starting weight of sample: No. 2 - No. 1
16.	0.9	Weight of fines: No. 9 - No. 10
17.	14.1	Weight of sand: No. 11 - No. 1
18.	0.6524822695	Sand density: No. 12 ÷ (No. 13 - No. 14)
19.	5.0	Weight of soluble content: No. 15 - (No. 16 + No. 17)
20.	0.032490744	Mols. of CO ₂ : No. 5 × No. 3 × 0.016 ÷ (No. 4 + 273.16 C.)
21.	3.25	Gram weight of CaCO ₃ : 100 × No. 20
22.	1.75	Gram weight of Ca(OH) ₂ : No. 19 - No. 21
23.	0.0236611568	Mols. of Ca(OH) ₂ : No. 22 ÷ 74
24.	4.16	Gram total weight of Ca(OH) ₂ : 74 × (No. 20 + No. 23)
25.	1.43	Gram weight CO ₂ : No. 20 × 44
26.	2.47	Gram weight total possible CO ₂ : 44 × (No. 20 + No. 23)
27.	57.86%	%CO ₂ gain: No. 25 ÷ No. 26
28.	18.57	Gram weight of sample: No. 15 - No. 25
29.	4.85	Fines parts/volume: No. 16 ÷ No. 28
30.	49.54	Sand parts/volume: (No. 17 ÷ No. 28) × No. 18
31.	24.61	Lime parts/volume: (No. 24 ÷ No. 28) × 1.1
32.		Portland cement parts/volume: (No. 16 ÷ No. 28) × 0.78
33.		Natural cement parts/volume: (No. 16 ÷ No. 28) × 0.86
34.		Lime with cement parts/volume: (No. 16 × 0.2) ÷ No. 28 × 1.1

Test No. 2 – Sand Sieve Analysis

Sieve	Sieve w/ Sand weight	Sieve weight	Sand weight	Sand ratio
No. 4	158.2	158.2	0	0.00%
No. 8	140.2	140	0.2	0.09%
No. 16	133.5	132.2	1.3	6.44%
No. 30	126.5	122.7	3.8	18.81%
No. 50	120.7	112.3	8.4	41.58%
Base	76.6	70.1	6.5	32.18%

Mortar/Plaster/Stucco Analysis Test Sheet

Sample No. 2
 Building 1104 Sixth Street, Nevada, Iowa
 Location Unidentified
 Sample Description Brown, slightly visible sand, soft, fast and bubbly reaction, normal filtering

Test No. 1 – Soluble Fraction

Data:

1. <u>183.8</u>	Container A weight	8. <u>no</u>	Hair or fiber
2. <u>203.8</u>	Container A and sample	9. <u>3.6</u>	Fines and paper weight
3. <u>758.45</u>	Barometric pressure (mm)	10. <u>2.5</u>	Filter paper weight
4. <u>22</u>	Temperature (°C)	11. <u>196.9</u>	Sand and Container A weight
5. <u>0.74</u>	Liters of water displaced	12. <u>8.0</u>	cc. of sand
6. <u>pale yel.-grn.</u>	Filtrate color	13. <u>21.1</u>	Weight of graduated cylinder and sand
7. <u>dark brown</u>	Fines color	14. <u>8</u>	Weight of graduated cylinder

Computations:

15. <u>20.0</u>	Starting weight of sample: No. 2 - No. 1
16. <u>1.1</u>	Weight of fines: No. 9 - No. 10
17. <u>13.1</u>	Weight of sand: No. 11 - No. 1
18. <u>0.6106870229</u>	Sand density: No. 12 ÷ (No. 13 - No. 14)
19. <u>5.8</u>	Weight of soluble content: No. 15 - (No. 16 + No. 17)
20. <u>0.0304243393</u>	Mols. of CO ₂ : No. 5 × No. 3 × 0.016 ÷ (No. 4 + 273.16 C.)
21. <u>3.04</u>	Gram weight of CaCO ₃ : 100 × No. 20
22. <u>2.76</u>	Gram weight of Ca(OH) ₂ : No. 19 - No. 21
23. <u>0.0372644063</u>	Mols. of Ca(OH) ₂ : No. 22 ÷ 74
24. <u>5.01</u>	Gram total weight of Ca(OH) ₂ : 74 × (No. 20 + No. 23)
25. <u>1.34</u>	Gram weight CO ₂ : No. 20 × 44
26. <u>2.98</u>	Gram weight total possible CO ₂ : 44 × (No. 20 + No. 23)
27. <u>44.95%</u>	%CO ₂ gain: No. 25 ÷ No. 26
28. <u>18.66</u>	Gram weight of sample: No. 15 - No. 25
29. <u>5.89</u>	Fines parts/volume: No. 16 ÷ No. 28
30. <u>42.87</u>	Sand parts/volume: (No. 17 ÷ No. 28) × No. 18
31. <u>29.53</u>	Lime parts/volume: (No. 24 ÷ No. 28) × 1.1
32. <u></u>	Portland cement parts/volume: (No. 16 ÷ No. 28) × 0.78
33. <u></u>	Natural cement parts/volume: (No. 16 ÷ No. 28) × 0.86
34. <u></u>	Lime with cement parts/volume: (No. 16 × 0.2) ÷ No. 28 × 1.1

Test No. 2 – Sand Sieve Analysis

Sieve	Sieve w/ Sand weight	Sieve weight	Sand weight	Sand ratio
No. 4	<u>158.2</u>	<u>158.2</u>	<u>0</u>	<u>0.00%</u>
No. 8	<u>140.7</u>	<u>140</u>	<u>0.7</u>	<u>1.66%</u>
No. 16	<u>135.3</u>	<u>132.2</u>	<u>3.1</u>	<u>7.35%</u>
No. 30	<u>131.4</u>	<u>122.7</u>	<u>8.7</u>	<u>20.62%</u>
No. 50	<u>130.5</u>	<u>112.3</u>	<u>18.2</u>	<u>43.13%</u>
Base	<u>81.6</u>	<u>70.1</u>	<u>11.5</u>	<u>27.25%</u>

Mortar/Plaster/Stucco Analysis Test Sheet

Sample No. 3
 Building: 1110 Sixth Street, Nevada, Iowa
 Location: Unidentified
 Sample Description: Buff, contaminants removed, soft, fast and bubbly reaction, normal filtering

Test No. 1 – Soluble Fraction

Data:

1.	194.0	Container A weight	8.	no	Hair or fiber
2.	214.0	Container A and sample	9.	3.8	Fines and paper weight
3.	758.19	Barometric pressure (mm)	10.	2.6	Filter paper weight
4.	22	Temperature (°C)	11.	208.4	Sand and Container A weight
5.	0.64	Liters of water displaced	12.	8.8	cc. of sand
6.	pale yel.-grn.	Filtrate color	13.	22.4	Weight of graduated cylinder and sand
7.	brown	Fines color	14.	8	Weight of graduated cylinder

Computations:

15.	20.0	Starting weight of sample: No. 2 - No. 1
16.	1.2	Weight of fines: No. 9 - No. 10
17.	14.4	Weight of sand: No. 11 - No. 1
18.	0.6111111111	Sand density: No. 12 ÷ (No. 13 - No. 14)
19.	4.4	Weight of soluble content: No. 15 - (No. 16 + No. 17)
20.	0.0263039219	Mols. of CO ₂ : No. 5 × No. 3 × 0.016 ÷ (No. 4 + 273.16 C.)
21.	2.63	Gram weight of CaCO ₃ : 100 × No. 20
22.	1.77	Gram weight of Ca(OH) ₂ : No. 19 - No. 21
23.	0.023913619	Mols. of Ca(OH) ₂ : No. 22 ÷ 74
24.	3.72	Gram total weight of Ca(OH) ₂ : 74 × (No. 20 + No. 23)
25.	1.16	Gram weight CO ₂ : No. 20 × 44
26.	2.21	Gram weight total possible CO ₂ : 44 × (No. 20 + No. 23)
27.	52.38%	%CO ₂ gain: No. 25 ÷ No. 26
28.	18.84	Gram weight of sample: No. 15 - No. 25
29.	6.37	Fines parts/volume: No. 16 ÷ No. 28
30.	46.70	Sand parts/volume: (No. 17 ÷ No. 28) × No. 18
31.	21.69	Lime parts/volume: (No. 24 ÷ No. 28) × 1.1
32.		Portland cement parts/volume: (No. 16 ÷ No. 28) × 0.78
33.		Natural cement parts/volume: (No. 16 ÷ No. 28) × 0.86
34.		Lime with cement parts/volume: (No. 16 × 0.2) ÷ No. 28 × 1.1

Test No. 2 – Sand Sieve Analysis

Sieve	Sieve w/ Sand weight	Sieve weight	Sand weight	Sand ratio
No. 4	158.2	158.2	0	0.00%
No. 8	140.1	140	0.1	0.35%
No. 16	133.4	132.2	1.2	4.15%
No. 30	126	122.7	3.3	11.42%
No. 50	124.9	112.3	12.6	43.60%
Base	81.8	70.1	11.7	40.48%

Mortar/Plaster/Stucco Analysis Test Sheet

Sample No. 4
 Building: 1038 Sixth Street, Nevada, Iowa
 Location: Unidentified
 Sample Description: Buff, soft, fast and bubbly reaction, normal filtering, cloudy filtrate

Test No. 1 – Soluble Fraction

Data:

1.	193.3	Container A weight	8.	no	Hair or fiber
2.	213.3	Container A and sample	9.	3.8	Fines and paper weight
3.	758.19	Barometric pressure (mm)	10.	2.5	Filter paper weight
4.	22	Temperature (°C)	11.	206.2	Sand and Container A weight
5.	0.81	Liters of water displaced	12.	8.6	cc. of sand
6.	pale vel.-grn.	Filtrate color	13.	20.9	Weight of graduated cylinder and sand
7.	buff	Fines color	14.	8	Weight of graduated cylinder

Computations:

15.	20.0	Starting weight of sample: No. 2 - No. 1
16.	1.3	Weight of fines: No. 9 - No. 10
17.	12.9	Weight of sand: No. 11 - No. 1
18.	0.6666666667	Sand density: No. 12 ÷ (No. 13 - No. 14)
19.	5.8	Weight of soluble content: No. 15 - (No. 16 + No. 17)
20.	0.0332909012	Mols. of CO ₂ : No. 5 × No. 3 × 0.016 ÷ (No. 4 + 273.16 C.)
21.	3.33	Gram weight of CaCO ₃ : 100 × No. 20
22.	2.47	Gram weight of Ca(OH) ₂ : No. 19 - No. 21
23.	0.033390674	Mols. of Ca(OH) ₂ : No. 22 ÷ 74
24.	4.93	Gram total weight of Ca(OH) ₂ : 74 × (No. 20 + No. 23)
25.	1.46	Gram weight CO ₂ : No. 20 × 44
26.	2.93	Gram weight total possible CO ₂ : 44 × (No. 20 + No. 23)
27.	49.93%	%CO ₂ gain: No. 25 ÷ No. 26
28.	18.54	Gram weight of sample: No. 15 - No. 25
29.	7.01	Fines parts/volume: No. 16 ÷ No. 28
30.	46.40	Sand parts/volume: (No. 17 ÷ No. 28) × No. 18
31.	29.28	Lime parts/volume: (No. 24 ÷ No. 28) × 1.1
32.		Portland cement parts/volume: (No. 16 ÷ No. 28) × 0.78
33.		Natural cement parts/volume: (No. 16 ÷ No. 28) × 0.86
34.		Lime with cement parts/volume: (No. 16 × 0.2) ÷ No. 28 × 1.1

Test No. 2 – Sand Sieve Analysis

Sieve	Sieve w/ Sand weight	Sieve weight	Sand weight	Sand ratio
No. 4	158.2	158.2	0	0.00%
No. 8	140.8	140	0.8	2.12%
No. 16	130.6	132.2	4.4	11.64%
No. 30	132.7	122.7	10	26.46%
No. 50	127.2	112.3	14.9	39.42%
Base	77.8	70.1	7.7	20.37%

Mortar/Plaster/Stucco Analysis Test Sheet

Sample No. 5
 Building: 526 & 532 K Street, Nevada, Iowa
 Location: Unidentified
 Sample Description: Buff, visible sand, paint removed, moderately hard, fast and bubbly reaction followed by prolonged reaction, rapid filtering

Test No. 1 – Soluble Fraction

Data:

1.	181.3	Container A weight	8.	no	Hair or fiber
2.	211.3	Container A and sample	9.	3.6	Fines and paper weight
3.	757.43	Barometric pressure (mm)	10.	2.5	Filter paper weight
4.	22	Temperature (°C)	11.	193.4	Sand and Container A weight
5.	0.94	Liters of water displaced	12.	8.4	cc. of sand
6.	pale yel.-grn.	Filtrate color	13.	20.1	Weight of graduated cylinder and sand
7.	buff	Fines color	14.	8	Weight of graduated cylinder

Computations:

15.	30.0	Starting weight of sample: No. 2 - No. 1
16.	1.1	Weight of fines: No. 9 - No. 10
17.	12.1	Weight of sand: No. 11 - No. 1
18.	0.694214876	Sand density: No. 12 ÷ (No. 13 - No. 14)
19.	16.8	Weight of soluble content: No. 15 - (No. 16 + No. 17)
20.	0.0385951592	Mols. of CO ₂ : No. 5 × No. 3 × 0.016 ÷ (No. 4 + 273.16 C.)
21.	3.86	Gram weight of CaCO ₃ : 100 × No. 20
22.	12.94	Gram weight of Ca(OH) ₂ : No. 19 - No. 21
23.	0.1748714064	Mols. of Ca(OH) ₂ : No. 22 ÷ 74
24.	15.80	Gram total weight of Ca(OH) ₂ : 74 × (No. 20 + No. 23)
25.	1.70	Gram weight CO ₂ : No. 20 × 44
26.	9.39	Gram weight total possible CO ₂ : 44 × (No. 20 + No. 23)
27.	18.08%	%CO ₂ gain: No. 25 ÷ No. 26
28.	28.30	Gram weight of sample: No. 15 - No. 25
29.	3.89	Fines parts/volume: No. 16 ÷ No. 28
30.	29.68	Sand parts/volume: (No. 17 ÷ No. 28) × No. 18
31.	61.40	Lime parts/volume: (No. 24 ÷ No. 28) × 1.1
32.		Portland cement parts/volume: (No. 16 ÷ No. 28) × 0.78
33.		Natural cement parts/volume: (No. 16 ÷ No. 28) × 0.86
34.		Lime with cement parts/volume: (No. 16 × 0.2) ÷ No. 28 × 1.1

Test No. 2 – Sand Sieve Analysis

Sieve	Sieve w/ Sand weight	Sieve weight	Sand weight	Sand ratio
No. 4	158.2	158.2	0	0.00%
No. 8	140.0	140	0.6	3.03%
No. 16	135	132.2	2.8	14.14%
No. 30	128.4	122.7	5.7	28.79%
No. 50	119.6	112.3	7.3	36.87%
Base	73.5	70.1	3.4	17.17%

----- RADON TESTS -----

RADON TESTING RESULTS CAN BE FOUND AT THE END OF THIS SPECIFICATION BOOKLET.

----- ASBESTOS TESTING -----

ASBESTOS TESTING RESULTS CAN BE FOUND AT THE END OF THIS SPECIFICATION BOOKLET.

----- LEAD TESTS -----

LEAD TESTING RESULTS CAN BE FOUND AT THE END OF THIS SPECIFICATION BOOKLET.

END OF SECTION 02 25 19

SECTION 02 36 15

HISTORICAL REMOVAL & DISMANTLING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes historic treatment procedures in the form of special types of selective demolition work for designated historic spaces, areas, rooms, and surfaces.
- B. Related Requirements:
 - 1. Section 01351 "Special Procedures for Historic Treatment" for general historic treatment requirements.

1.2 DEFINITIONS

- A. Dismantle: To disassemble or detach a historic item from a surface, or a non-historic item from a historic surface, using gentle methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- B. Existing to Remain: Existing items that are not to be removed or dismantled, except to the degree indicated for performing required Work.
- C. Remove: To take down or detach a non-historic item located within a historic space, area, or room, using methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- D. Retain: To keep existing items that are not to be removed or dismantled.
- E. Salvage for Reuse on this Project: Items noted in the drawings to be reused that have to be removed should be carefully removed, marked for identification, stored in a safe area, refurbished as needed, and reinstalled. Contractors may suggest reuse of salvaged materials on the project if removed items are in good condition.
- F. Salvage for Delivery to the Owner: If an item is noted in the drawings to be given to a building Owner, the Contractor shall salvage the item as gently as possible and deliver it to the Owner of the building. Contractor shall place the items within the building the item was removed from as directed by the Owner. Contractors who find concealed trim, scrollwork, or decorative panels shall so notify the Architect immediately upon discovery.

1.3 PRECONSTRUCTION MEETINGS

- A. Preconstruction Conference(s): Conduct conference(s) at Project site.
 - 1. Review list of items indicated to be salvaged.
 - 2. Review methods and procedures related to removal and dismantling procedures and protection of historic areas and surfaces.

1.4 INFORMATIONAL SUBMITTALS

- A. Preconstruction Documentation: Contractors are encouraged to photograph storefronts just prior to start of work on that storefront to document the condition of the adjacent surfaces. Emphasize in photographs or through other documentation preexisting conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by Contractor's removal, dismantling, or renovation efforts operations.
- B. List of Items Indicated to Be Salvaged: Prepare a list of items indicated on Drawings to be salvaged for reuse on the project or delivery to an Owner. Submit 7 days before preconstruction conference.
- C. Inventory of Salvaged Items: After removal or dismantling work is complete, submit a list of items that have been salvaged and confirm that they have been refurbished and reinstalled or delivered to the building Owner.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with notification regulations of authorities having jurisdiction before beginning removal and dismantling work. Comply with hauling and disposal regulations of authorities having jurisdiction.
 - 1. Do not begin demolition operations until asbestos removal is completed on any buildings requiring mitigation.
 - 2. Comply with worker and public safety requirements for items having lead paint or other hazardous materials.

1.6 FIELD CONDITIONS

- A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before removal and dismantling, the Building Owner will remove from the designated construction area, merchandize, loose furnishings, draperies, blinds, and any other items they wish to salvage. Any built in items to be salvaged by the Contractor is noted on the drawings.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.
- C. Hazardous Materials: See the asbestos survey of the project included in this project manual for a list of areas requiring asbestos mitigation.
 - 1. Hazardous materials are to be abated by a certified contractor under the scope of this project.
 - 2. If other materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify the General Contractor verbally and follow up with written notification. The General Contractor is to verbally notify the Owner and Architect and confirm that notification in writing. Notifications are to identify specifically which building, material within the building, and location in the building of the suspicious material. The Owner will have material identified and remove hazardous materials under a separate contract.
 - a. In the case of asbestos, stop work in the area of potential hazard, shut off fans and other air handlers ventilating the area, and barricade the area until the questionable material is identified and if necessary removed. Reassign workers to continue work in unaffected areas. Resume work in the area of concern after safe working conditions are verified.
 - b. It is assumed on this project that all historic wood trim and painted surfaces in these buildings contain lead paint. Workers on this project who will be removing, handling, modifying, painting, or otherwise working with these materials should be trained in safety procedures.

PART 2 - PRODUCTS - (NOT USED) PART 3 - EXECUTION

3.1 EXAMINATION

- A. Preparation for Removal and Dismantling: Examine construction to be removed or dismantled to determine best methods to safely and effectively perform removal and dismantling work.
 - 1. Verify that affected utilities are disconnected and capped.
 - 2. Inventory and record the condition of items to be removed and dismantled for reinstallation or salvage. Enter this information on the submittal of inventory of salvaged items.
 - 3. Structural Survey: If any structural elements of the building are shown for removal, the Contractors shall provide necessary shoring, blocking, bracing, or other means to temporarily support the structure until new structure is inserted. If the Contractor has questions as to the loads that are bearing upon the elements in question or is uncertain of the temporary methods required, he shall retain a structural engineer to design the temporary supports.

4. Mortar tests: Masonry mortar shall replicate mortar test results included herein.
- B. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video recordings. Comply with requirements specified in Section 01322 "Photographic Documentation."
- C. Perform surveys as the Work progresses to detect hazards resulting from historic removal and dismantling procedures.

3.2 HISTORIC REMOVAL AND DISMANTLING

- A. Water-Mist Sprinkling: Use water-mist sprinkling and other wet methods to control dust only with adequate, approved procedures and equipment according to the historic treatment program to ensure that such water does not create a hazard or adversely affect other building areas or materials.
- B. Anchorages: (See masonry restoration sections for further information.)
 1. Remove anchorages associated with removed items.
 2. Dismantle anchorages associated with dismantled items.
 3. In non-historic surfaces, patch holes created by anchorage removal or dismantling according to the requirements for new work.
 4. In historic surfaces, patch or repair holes created by anchorage removal or dismantling according to Section that is specific to the historic surface being patched.

END OF SECTION 02 36 15

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Demolition and removal of selected site elements.
- B. Removal of designated partitions and components.
- C. Removal of designated building equipment and fixtures.

1.02 REGULATORY REQUIREMENTS

- A. Conform to applicable code for dust control, service utilities and discovered hazards.

1.03 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean and protect against damage. Deliver items as directed by Owner to locations on site.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. All site landscaping damaged during the construction phase shall be restored by the General Contractor at the closeout of the job.

1.04 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the General Contractor's property and shall be removed from the site with further disposition at the General Contractor's option.

1.05 PROJECT CONDITIONS

- A. Storage or sale of removed items or materials on-site will not be permitted.

PART 2 – PRODUCTS

2.01 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
 - 1. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 2. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- E. When unanticipated mechanical, electrical or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Architect.
- F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.02 PREPARATION

- A. Provide, erect, and maintain temporary barriers and security devices.
- B. Erect and maintain weatherproof, airtight, insulated closures for exterior openings.

- C. Erect and maintain temporary partitions to prevent spread of dust, odors and noise to permit continued Owner occupancy.

3.03 DEMOLITION REQUIREMENTS

- A. Conduct operations with minimum interference to public or private accesses.
- B. Maintain protected egress and access at all times.

3.04 SELECTIVE DEMOLITION

- A. Demolish and remove existing construction only to the extent required by new construction as indicated. Use methods required to complete Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes, plumb, square and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 9. Dispose of demolished items and materials promptly.
- C. Removed and Salvaged Items:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.05 PATCHING AND REPAIRS

- A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.
- B. Patching is specified in Division 1 Section "Cutting and Patching"
- C. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.

3.06 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Masonry: Demolish in small sections. Cut masonry at junctures with construction to

- remain, using power-driven saw, and then remove masonry between saw cuts.
- B. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings."
 - C. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Section for new roofing requirements.
 - 1. Remove existing roof membrane, flashings, copings, and roof accessories.
 - 2. Remove existing roofing system down to substrate.
- 3.07 DISPOSAL OF DEMOLISHED MATERIALS**
- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 4. Comply with requirements specified in Section 01 74 19 "Construction Waste Management and Disposal."
 - B. Burning: Do not burn demolished materials.
 - C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.
- 3.08 CLEAN UP**
- A. Remove demolished materials from site as work progresses.
 - B. Sweep the building broom clean on completion of selective demolition operation.
 - C. Change filters on air-handling equipment on completion of selective demolition operations.
 - D. Leave areas of work in clean condition.

END OF SECTION 02 41 19

SECTION 02 75 30

PAVEMENT JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cold-applied joint sealants for sidewalks and concrete drives and curbs.

1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Qualification Data: For qualified Installer.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each type of joint sealant from single source from single manufacturer.
- C. Preinstallation Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

- A. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: ASTM D 5893, Type SL.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Corp., Sonneborn SL-1.
 - b. Crafcro Inc., an ERGON company; RoadSaver Silicone SL.
 - c. Dow Corning Corporation; 890-SL.
 - d. Pecora Corporation; 300 SL.

2.3 JOINT-SEALANT BACKER MATERIALS

- A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.
- B. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.4 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install joint-sealant backings of kind indicated to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of joint-sealant backings.
 - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
 - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place joint sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess joint sealant or sealant smears adjacent to joints as the Work

progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 SCHEDULE OF JOINTS TO BE FILLED

- A. Existing Concrete Slabs- Horizontal Joints between existing concrete slabs and new walls, foundations, or new slabs.
- B. Patched Concrete Slabs- Where field patches or toppings cannot be formed tight to existing vertical surfaces, where a removable screed is needed to properly level a topping, where saw cuts are installed, or where movement between adjacent surfaces is anticipated.
- C. New Concrete Slabs- All perimeter joints of slabs where they abut existing concrete or vertical surfaces.

3.6 PROTECTION

- A. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

3.7 PAVEMENT-JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Joints within cement concrete pavement.
 - 1. Joint Location:
 - a. Expansion and isolation joints in cast-in-place concrete pavement.
 - b. Contraction joints in cast-in-place concrete slabs.
 - c. Other joints as indicated.
 - 2. Silicone Joint Sealant for Concrete: Single component, self-leveling.

END OF SECTION 02 75 30

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.
- B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, welded connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
- D. Construction Joint Layout:
 - 1. Construction joints are not indicated in the drawings provide locations and types of joints to be used in each condition. Joint spacing not to exceed 10 feet in the short dimension and the maximum area between joints shall not exceed 400 square feet. Locate joints on structural lines, at corners of slabs, or concealed under walls whenever possible.
 - 2. Construction joints are to be located as required to meet referenced standards.
- E. Provide the following samples for review prior to ordering:
 - 1. Vapor retarder

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For each of the following, signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Form materials and form-release agents.
 - 4. Steel reinforcement and accessories.
 - 5. Curing compounds.
 - 6. Floor and slab treatments. (Where specified elsewhere.)
 - 7. Bonding agents.
 - 8. Adhesives.
 - 9. Vapor retarders.
 - 10. Semirigid joint filler.
 - 11. Joint-filler strips.
- B. Field quality-control reports, such as concrete testing reports.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Company to install poured concrete shall have at least 5 years of successful projects or company owner to have at least 10 years of successful project experience and lead concrete installer to have a minimum of 5 years of successful concrete placement.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Where reinforcement has special coatings, provide special handling and storage to protect.

1.8 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 and as follows:
 - 1. Maintain concrete temperature below at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 - 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
 - 1. ACI 301.
 - 2. ACI 117.

2.2 FORM-FACING MATERIALS

- A. Under no conditions should forms which are dented or delaminated or which have a build-up of concrete on the surface be used for forming concrete. Surfaces which are exposed to view or which are to be waterproofed with these problems may be subject to partial or complete patching or complete removal and replacement due to form issues.
- B. Smooth-Formed Finished Concrete: Unless otherwise specifically noted and specified, no decorative, textured, or patterned concrete forms are to be used on this project. Form-facing panels that provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints. Plywood, metal, or other approved panel materials.
 - 1. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - a. High-density overlay, Class 1 or better.
 - b. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.

- c. Structural 1, B-B or better; mill oiled and edge sealed.
 - d. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.
- 2. Overlaid Finnish birch plywood.
- C. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- D. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.
- E. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation.
- F. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- G. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- H. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- I. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- J. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, leave holes no larger than 1 inch in diameter in concrete surface.
 - 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- C. Steel Bar Mats: ASTM A 184/A 184M, fabricated from ASTM A 615/A 615M, Grade 60 ASTM A 706/A 706M], deformed bars, assembled with clips.
- D. Plain-Steel Wire: ASTM A 1064/A 1064M, as drawn.
- E. Deformed-Steel Wire: ASTM A 1064/A 1064M.
- F. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.
- G. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.

2.4 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel bars, cut true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - 1. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.5 CONCRETE MATERIALS

- A. Source Limitations: Obtain each type or class of cementitious material of the same brand

from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

- B. Cementitious Materials:
 - 1. Portland Cement: ASTM C 150/C 150M, Type I, gray.
 - 2. Fly Ash: ASTM C 618, Class F or C.
- C. Normal-Weight Aggregates: ASTM C 33/C 33M, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- D. Air-Entraining Admixture: ASTM C 260/C 260M.
- E. Chemical Admixtures: To be allowed only when specifically noted in the Structural Drawings or by specific approval of the products by the Architect or Structural Engineer prior to use. Where use is anticipated include in concrete design mix and provide product information for review. Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
- F. Set-Accelerating Corrosion-Inhibiting Admixture: To be allowed only when specifically noted in the Structural Drawings or by specific approval of the products by the Architect or Structural Engineer prior to use. Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete and complying with ASTM C 494/C 494M, Type C.
- G. Non-Set-Accelerating Corrosion-Inhibiting Admixture: To be allowed only when specifically noted in the Structural Drawings or by specific approval of the products prior to use. Commercially formulated, non- set-accelerating, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.
- H. Water: ASTM C 94/C 94M and potable.

2.6 VAPOR RETARDERS

- A. Sheet Vapor Retarder: ASTM E 1745, Class A, except with maximum water-vapor permeance of .01 Perms. Include manufacturer's recommended adhesive or pressure-sensitive tape. 15 mils minimum thickness.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Raven Industries, Inc.
 - b. Stego Industries, LLC.

2.7 RELATED MATERIALS

- A. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 according to ASTM D 2240.
- B. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- C. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types I and II, non-load bearing or Types IV and V, load bearing as required for application, for bonding hardened or freshly mixed concrete to hardened concrete.
- D. Reglets: Fabricate reglets of not less than 0.022-inch- (0.55-mm-) thick, galvanized-steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.
- E. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inch (0.85 mm) thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

2.8 REPAIR MATERIALS

- A. Repair Underlayment: (Repair materials are to be used only in very small and limited quantities in concealed areas unless noted otherwise or approved in advance.) Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
 1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by underlayment manufacturer.
 4. Compressive Strength: Not less than [4100 psi (29 MPa) or at least equal by test to surrounding materials at 28 days when tested according to ASTM C 109/C 109M.
- B. Repair Overlayment: (Overlay materials are only to be used in areas of existing construction and only where specifically noted in the drawings or approved in advance.) Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch (6.4 mm) and that can be filled in over a scarified surface to match adjacent floor elevations.
 1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by topping manufacturer.
 4. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C 109/C 109M.

2.9 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301 (ACI 301M).
- B. Cementitious Materials: Use of fly ash, pozzolan, slag cement, and silica fume is allowed to reduce the total amount of portland cement, which would otherwise be used.
 1. Fly Ash: 25 percent.
 2. Combined Fly Ash and Pozzolan: 25 percent.
 3. Slag Cement: 50 percent.
 4. Combined Fly Ash or Pozzolan and Slag Cement: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.
 5. Silica Fume: 10 percent.
 6. Combined Fly Ash, Pozzolans, and Silica Fume: 35 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.
 7. Combined Fly Ash or Pozzolans, Slag Cement, and Silica Fume: 50 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.

- C. Admixtures: Allowed provided all admixtures to be used on a project are submitted with the mix design and approved by the structural engineer and soil testing agency. Use admixtures according to manufacturer's written instructions.
 - 1. Use water-reducing, high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.
 - 2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 - 3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a w/c ratio below 0.50.
 - 4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.
- D. Color Pigment: Where noted in the drawings, add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

2.10 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Footings: Normal-weight concrete.
 - 1. Minimum Compressive Strength: As indicated in the structural drawings but not less than 3000 psi at 28 days.
 - 2. Maximum W/C Ratio: 0.50 unless specifically approved by Structural Engineer or Testing Agency.
 - 3. Slump Limit: 4 inches for concrete without admixtures or 8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch.
 - 4. Air Content: 5.5 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch nominal maximum aggregate size.
- B. Foundation Walls: Normal-weight concrete.
 - 1. Minimum Compressive Strength: As indicated in the structural drawings but not less than 4000 psi at 28 days.
 - 2. Maximum W/C Ratio: 0.45 unless specifically approved by Structural Engineer or Testing Agency.
 - 3. Slump Limit: 4 inches for concrete without admixtures or 8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch.
 - 4. Air Content: 5.5 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch nominal maximum aggregate size.
- C. Slabs-on-Grade: Normal-weight concrete.
 - 1. Minimum Compressive Strength: As indicated in the structural drawings but not less than 4000 psi at 28 days.
 - 2. Maximum W/C Ratio: 0.45.
 - 3. Slump Limit: 4 inches for concrete without admixtures, or 8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch.
 - 4. Air Content: 5.5 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch (38-mm) nominal maximum aggregate size.
 - 5. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.
- D. Building Walls: Normal-weight concrete.
 - 1. Minimum Compressive Strength: Verify with structural drawings but not less than 4000 psi at 28 days.
 - 2. Maximum W/C Ratio: 0.45.
 - 3. Slump Limit: 4 inches without admixtures or 8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch.
 - 4. Air Content: 5.5 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch

nominal maximum aggregate size.

2.11 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.12 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 (ACI 117M).
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
1. For all surfaces exposed to view, where painted, or where waterproofing requires: Class A, 1/8 inch for smooth-formed finished surfaces.
 2. For surfaces concealed by furring or other finishes which are directly attached to concrete: Class B, 1/4 inch.
 3. For permanently concealed walls where furring or concealment is not directly attached to the wall, buried walls not requiring waterproofing Class C, 1/2 inch and Class D, 1 inch for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
1. Install keyways, reglets, recesses, and the like, for easy removal.
 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Unless otherwise noted or shown, chamfer exterior corners top and edges of the tops and sides of permanently exposed concrete where there is no other wall or ceiling surface flush with face of concrete wall.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
 - 2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
 - 3. Install dovetail anchor slots in concrete structures as indicated.

3.3 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete unless curing conditions allow forms to be removed sooner, but no less than 12 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
 - 1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
 - 2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces. Do not use forms where concrete laitance will affect structural integrity of the concrete, detract from appearance of the concrete or with adhesion of waterproofing, EIFS, or other cladding systems. The Architect reserves the right to reject exposed concrete walls damaged by the use of laitance covered or damaged forms.

3.4 SHORING AND RESHORING INSTALLATION

- A. Comply with ACI 318 (ACI 318M) and ACI 301 (ACI 301M) for design, installation, and removal of shoring and reshoring.
 - 1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.
- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.5 VAPOR-RETARDER INSTALLATION

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.
 - 1. Lap joints 6 inches and seal with manufacturer's recommended tape.
- B. Bituminous Vapor Retarders: Place, protect, and repair bituminous vapor retarder according to manufacturer's written instructions.

3.6 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.
- C. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- D. Install welded-wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
 2. Locate joints for beams, slabs, joists, and girders in the middle third of spans or as directed by the drawings. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 3. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 4. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
 1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks. Sawcut newly placed concrete slabs as soon as practical and in no case more than 24 hours after placement.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated
 1. Terminate full-width joint-filler strips not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
 2. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

3.8 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 (ACI 301M).
 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301 (ACI 301M).
 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Maintain reinforcement in position on chairs during concrete placement.
 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 4. Slope surfaces uniformly to drains where required.
 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

3.9 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Applies to concrete surfaces not exposed to public view.
 2. Where waterproofing or EIFS is to be applied, surface must not reduce adhesion of glues and mastics.
 3. Below grade
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be painted or covered with a coating or covering material applied directly to concrete including spray texture materials.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.10 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture. Use float finish in areas indicated in the drawings or where concrete is to be covered with fluid applied or sheet waterproofing, built up membrane roofing, or sand be terrazzo. In all of these cases concrete contractor must coordinate surface requirements with covering product manufacturer's recommendations.
- C. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is

free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces to be covered with resilient flooring (VCT, LVT, and others), carpet, thin-set terrazzo, ceramic or quarry tile, paint, or another thin-film-finish coating systems.
2. Finish and measure surface, so gap at any point between concrete surface and an unlevelled, freestanding, 10-ft.- long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch.
3. Finish surfaces to the following tolerances, according to ASTM E 1155 (ASTM E 1155M), for a randomly trafficked floor surface:
 - D. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, stoops, and other exterior, wet condition walking surfaces, and other areas elsewhere as indicated.
 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

3.11 MISCELLANEOUS CONCRETE ITEM INSTALLATION

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations:
 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
 2. Construct concrete bases 4 inches (change thickness if required) high unless otherwise indicated, and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required.
 3. Minimum Compressive Strength: 4000 psi at 28 days.
 4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
 5. For supported equipment, install anchor bolts that extend through concrete base and anchor into structural concrete substrate. Verify size, type, and coating required, if any, of anchor bolts.
 6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.
 8. See structural drawings for engineered foundations and equipment slabs.
 9. Provide for all equipment noted in the architectural, mechanical, electrical, or structural drawings or for equipment which are not designed with an integral base.

3.12 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 (ACI 301M) for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after

- placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period.
 - D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
 - E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Moisture Curing: To be used wherever curing compounds are incompatible with finish floor or membrane adhesives, floor coatings, waterproofing membranes, or other covering materials. Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and
 - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.

3.13 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches (50 mm) deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.14 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 (1.18-mm) sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension to solid concrete. Limit cut depth to 3/4 inch (19 mm). Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 - 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 - 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a

sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 5. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch (19-mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 6. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.15 FIELD QUALITY CONTROL

- A. Special Inspections: Contractor will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections:
1. Verification of concrete strength before removal of shores and forms from beams and slabs.
- C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
 - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 3. Air Content: ASTM C 231/C 231M, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air

- temperature is 40 deg F (4.4 deg C) and below or 80 deg F (27 deg C) and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
 - b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
 6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
 7. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
 8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
 9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive- strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
 10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
 11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
 12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
 13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
 14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- D. Measure floor and slab flatness and levelness according to ASTM E 1155 (ASTM E 1155M) within 24 hours of finishing.

END OF SECTION 03 33 00

SECTION 04 01 00

MAINTENANCE OF UNIT MASONRY

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Generals and Supplementary Conditions and Division 01 Specification Sections.

1.02 SUMMARY

- A. This Section included the following masonry restoration and cleaning:
 - 1. 100% cleaning of all exterior brick, concrete/ limestone sills/ copings and terracotta building surfaces
 - 2. Repointing of limestone mortar joints as shown on the drawings.
 - 3. Remove all miscellaneous wood and metal fasteners on the masonry, patch or repoint as needed.
 - 4. Patching or replacement of all damaged brick, sills/ copings or terracotta.
 - 5. Repair or replacement of all flashing metal.
 - 6. Steel lintel replacement as needed.

1.03 DEFINITION

- A. Repointing: The process of raking out (removing) pointing mortar while leaving bedding mortar in place and replacing it with the proper new tuckpointing mortar.

1.04 QUALITY ASSURANCE

- A. Restoration Specialist: The repair and pointing shall be carried out by a firm having not less than five (5) years successful experience in the cleaning, repair, joint raking and pointing of masonry similar to the work described in this section.
 - 1. The Contractor shall submit all the following information demonstrating the masonry contractor's qualifications and experience for approval by the Architect and Owner. Contractors not submitting the required information or failing to meet the minimum requirements will be disqualified and will not be allowed to perform the work of this Section.
 - a. Provide written description of a minimum of three projects completed within the past five years for which the masonry contractor has performed the masonry cleaning, pointing and repair. Projects must have been performed on properties 75 years old or older. Provide the name and address of the project, the name and telephone number of the Owner and Architect, dates work was performed and a description of the materials and methods used to perform the work for each project.
- B. Field-Constructed Mock-Ups: Prior to start of general masonry restoration, prepare the following sample panels on building where directed by Architect. Obtain Architect's acceptance of visual qualities before proceeding with the work. Retain acceptable panels in undisturbed condition, suitably marked, during constructions as a standard for judging completed work.
 - 1. Cleaning: Demonstrate materials and methods to be used for cleaning of masonry surface and condition of sample panels of approximately 25 sq. ft.
 - a. Test adjacent non-masonry materials for possible reaction with cleaning materials.
 - b. Allow waiting period of duration indicated, but not less than 7 calendar days, after completion of sample cleaning to permit study of sample panels for negative reactions.
 - 2. Repointing: Prepare 2 separate sample areas of approximately 3' high by 6' wide for each type of repointing required, one for demonstrating methods and quality of workmanship expected in removal of mortar from joints and the other for demonstrating quality of materials and workmanship expected in pointing mortar joints.
 - 3. Stone Patching: Prepare one sample as selected from damaged stone of the

building by the Owner's Representative for demonstrating quality of patching and workmanship expected in patching of the stone. This sample can be incorporated to the project.

- C. Source of Materials: Obtain materials for masonry restoration from a single source for each type material required to ensure match of quality, color, pattern and texture.
- D. Architect may randomly select areas of tuckpointing to be raked for verification of the appropriate depth of pointing to void filling. Contractor shall bear the cost of repointing these areas of selected destructive testing in their base bid.

1.05 SUBMITTALS

- A. Product Data: Submit manufacturers' technical data for each product indicated including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements.
- B. Restoration Program: Submit written program for each phase of restoration process including protection of surrounding materials on building and site during operations. Describe in detail materials, methods and equipment to be used for each phase of restoration work.
- C. Patching Mortar: Submit the following items in time to prevent delay of the work and to allow adequate time for review and resubmittals, if needed; do not order materials or start work before receiving the written approval:
 - 1. Written certificates from the repair mortar Manufacturer shall be submitted stating that all installers of the repair mortar have successfully completed the training workshop for installation of the mortar.
 - 2. Samples of all specified materials and Material Safety Data Sheets (MSDS) as appropriate.
 - 3. Certificates, except where the material is labeled with such certification, by the producers of the materials, that all materials supplied comply with all the requirements of these specifications and the appropriate standards.
 - 4. Color-match patch samples fabricated on pieces of appropriate masonry from or on the building using the specified repair mortar as required.
 - 5. Written verification that all specified items will be used. Provide purchase orders, shipping tickets, receipts, etc. to prove that the specified materials were ordered and received.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers.
- B. Protect masonry restoration materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.
- C. Protect mortar and other materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.07 PROJECT CONDITIONS

- A. Clean masonry surfaces only when air temperatures are 40 deg. F and above and will remain so until masonry has dried out, but for not less than 7 days after completion of cleaning.
- B. Do not repoint mortar joints or repair masonry unless air temperatures are between 40 deg. F and 80 deg. F and will remain so for at least 48 hours after completion of work.
- C. Prevent mortar used in repointing and repair work from staining face of surrounding masonry and other surfaces. Remove immediately mortar in contact with exposed masonry and other surfaces.
- D. Protect sills, ledges and projections from mortar droppings.

1.08 SEQUENCING / SCHEDULING

- A. Perform masonry restoration work in the following sequence:

1. Clean existing masonry surfaces.
2. Repair existing masonry including replacing existing masonry with new masonry materials.
3. Repoint existing mortar joints as shown on Drawings or as selected by Architect at time of construction.
4. Clean masonry surfaces after tuckpointing and repairs to remove mortar residues.

PART 2 – PRODUCTS

2.01 MASONRY MATERIALS

- A. Provide brick to match existing bricks' sizes, profiles, color, and surface textures.

2.02 MORTAR MATERIALS

- A. Refer to Section 04 05 13.91 - Masonry Restoration Mortaring for setting of masonry units. Historic Pointing Mortar to be used for final pointing of all affected joints.

2.03 MORTAR MIXES

- A. On the Historic buildings, the mortar shall match the recipes described per the mortar analysis from each individual building.
- B. Pre-Mixed Mortar
 1. Jahn M1 10 Historic Pointing Mortar
 2. SPEC MIX Tuckpoint mortar.
- C. Measurement and Mixing: Measure cementitious and aggregate material in a dry condition by volume or equivalent weight. Do not measure by shovel, use known measure. Mix materials in a clean mechanical batch mixer.
- D. Do not use admixtures of any kind in mortar, unless otherwise indicated.

2.04 CLEANING MATERIALS AND EQUIPMENT

- A. Limestone Cleaner: Manufacturer's as indicated below for cleaning for cut limestone.
- B. Approved Manufactures
 1. Sika Corporation
 2. ProSoCo Inc. (Used as standard)
 3. Thuro
- C. Materials: The specified cleaning application is a three- (3) step process requiring all of the following products. ProSoCo Sure Klean products are used as a standard. Equal products for each application by Sika or Thuro are acceptable for cut stone.
- D. For Cut stone and rough cut stone masonry
 1. First application, Sure Klean 766 Limestone and Masonry Prewash.
 2. Second application, Sure Klean Limestone and Masonry Afterwash.
 3. Third Application, Sure Klean Weather Seal Siloxane PD Natural Stone Treatment.
- E. For Brick Masonry
 1. ProSoCo Sure Klean Restoration Cleaner
- F. For spot problem stains where required
 1. Product: Subject to compliance with requirements, provide "Sure Klean Limestone Restorer", ProSoCo, Inc.
- G. Water for Cleaning: Clean, potable, free of oils, acids, alkalis, salts, and organic matter.
 1. Warm Water: Heat water to temperature of 140 deg.F-180 deg. F.
- H. Brushes: Fiber bristle only.
- I. Spray Equipment: Provide equipment for controlled spray application of water and chemical cleaners, if any, at rates indicated for pressure, measured at spray tip, and for volume.
 1. For spray application of chemical cleaners provide low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray-tip.
 2. For spray application of water provide fan-shaped spray-tip which disperses water at angle of not less than 15 degrees.

2.05 MISCELLANEOUS MATERIALS

- A. Stone-to-Stone Adhesive: High Modulus, high strength, moisture-insensitive epoxy adhesive with a pot life of 30 minutes at 40 deg. F.
 - 1. Product: Subject to compliance with requirements, provide Sikadur 32 Hi-Mod Epoxy, Sika Corporation.
- B. Stone Anchors: Stainless steel rod (ASTM F593) with a diameter as indicated on contract drawings. If not indicated, to match existing in size. Cut ends of the rods square.
- C. Bonding Agent: Water-based epoxy resin bonding agent.
 - 1. Product: Subject to compliance with requirements, provide Sika Armalec 110, Sika Corporation.

2.06 MASONRY PATCHING

- A. Repair mortar for patching masonry (M70, M90, M100, M120): Jahn Restoration Mortars are distributed by Cathedral Stone Products, Inc. Must be premixed cementitious infection grout formulated to match the color and texture of the existing stone that does not contain any acrylic, latex, or other synthetic polymer additives. The mortar need only be mixed with potable water at the site. The mortar must be vapor permeable, frost and salt resistant, shrink resistant, and be physically compatible with the substrate, including, but not limited to, porosity, tensile, and compressive strength.
- B. If proposed equal is submitted, thorough lab testing shall be required to establish equivalent performance levels. An independent testing laboratory shall be utilized as determined by the Specifier and paid for by the submitting party.

PART 3 – EXECUTION

3.01 PREPARATION

- A. General: Comply with recommendations of manufacturers of chemical cleaners for protecting building surfaces against damage from exposure to their products.
- B. Protect persons, motor vehicles, surrounding surfaces of building whose masonry surfaces are being restored, building site, and surrounding buildings from injury resulting from masonry restoration work.
 - 1. Prevent chemical cleaning solution from coming into contact with pedestrians, motor vehicles, landscaping, buildings and other surfaces which could be injured by such contact.
 - 2. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
 - 3. Dispose of run-off from cleaning operations by legal means and in manner which prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
 - 4. Erect temporary protection covers over pedestrian walkways and at points of entrance and exit for persons and vehicles which must remain in operation during course of masonry restoration work.
- C. Protect glass, unpainted metal trim and polished stone from contact with acidic chemical cleaners by covering them with protective film. Apply protective film to comply with manufacturer's recommendations.
- D. Protect unpainted metal from contact with alkali chemical cleaners by covering them with polyethylene protective film and waterproof masking tape.
- E. Containment of all run-off related to cleaning masonry will be a must in order to minimize impact on surrounding vegetation; contractor is responsible to meet all local, state and federal regulations in each masonry cleaner' application, handling, and disposal. ProSoCo indicates that containment and proper disposal of Sure Klean 509 paint stripper is without exception always regulated due to the petroleum base products it contains.

3.02 CLEANING STONE WORK

- A. Preparation
 - 1. Use the simplest and least harmful method to remove undesirable substance.
 - 2. General: Comply with recommendations of manufacturers of chemical cleaners for protecting building surfaces against damage from exposure to their products.
 - 3. Protect persons, motor vehicles, surrounding surfaces of building whose

- masonry surfaces are being restored, building site, mask windows and window frames.
4. Prevent chemical cleaning solutions from coming into contact with pedestrians, motor vehicles, landscaping, buildings and other surfaces, which could be injured by such contact.
 5. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
 6. Dispose of run-off from cleaning operations by legal means and in manner which prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
 7. Erect temporary protection covers over pedestrian walkways and at points of entrance and exit for persons and vehicles, which must remain in operation during course of masonry restoration work.
 8. Protect glass and unpainted metal trim from contact with chemical cleaners by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape. Apply masking agent to comply with manufacturer's recommendations. Do not apply liquid masking agent to painted or porous surfaces.
- B. Chemical Cleaner Application Methods:
1. General: Apply chemical cleaners to masonry surfaces to comply with chemical manufacturer's recommendations using brush or spray application methods, at Contractor's option, unless otherwise indicated. Do not allow chemicals to remain on surface for periods longer than that indicated or recommended by manufacturer.
- C. Cleaning Cut And Rough Cut Rubble Stonework
1. Pretest a small area to ensure suitability and desired results. If test areas with concentrated material are cleaned effectively additional tests may be run with dilutions of one part cleaner to three parts water. Greater dilution of 1 part cleaner to 4 or more parts water is desired to avoid staining of adjacent masonry if approved by manufacture and results are achieved. Allow to dry thoroughly before inspection by Owner's Representative and Architect.
- D. Cleaning Application For Cut Stone - Sequence of product application
1. Pre-wet surface
 2. Prewash: After tests have determined desirable mix solution apply 766 Prewash with deep-napped synthetic roller or nylon brush. Do not use natural fiber.
 3. Allow Prewash to remain on surface for 30 minutes to one hour.
 4. Rinse with pressure washer fitted with fan type spray no smaller than 15 degrees.
 5. Immediately after rinsing 766 Prewash apply prepared (to desired dilution) Afterwash to wet surface with roller or brush as specified for Prewash.
 6. Allow the Afterwash to remain on the surface for three to five minutes.
 7. Pressure rinse from the bottom of the treated area to the top. Thoroughly rinse all chemicals from coping and down exterior walls.
 8. Sealer: Allow cleaned surfaces too completely dry.
 9. Apply undiluted Weather Seal Siloxane PD with brush or roller sufficient material to thoroughly saturate the surface. Brush out heavy runs, pools or puddles until they completely penetrate.
- E. Cleaning Allocation For Brick Masonry
1. Apply chemical cleaner with low pressure mister
 2. Allow to remain on brick for 3 to 5 minutes.
 3. Scrub tough stains with stiff bristle brush.
 4. Rinse with clean potable water
- F. Note: Start each cleaning at the lowest part and work the way up the face of the building. During the entire applications process the lower masonry areas must be continuously

rinsed to avoid rundown staining of adjacent brick and stone masonry.

3.03 PAINT AND TAR REMOVAL

- A. Paint Removal with Water-Rinsible Chemical Paint Remover: Remove paint and tar from brick and limestone surfaces as follows:
1. Rake out mortar from all joints to depths of not less than 1" nor less than that required to expose sound, unweathered mortar.
 2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum or flush joints to remove dirt and loose debris.
 3. Do not spall edges of masonry units or widen joints. Replace any stone which become damaged.
 4. Cut out old mortar head joint by electric caulk cutter knife. For all bed joints a small hand power saw with 1/8" thick, 3" to 4" diameter with diamond blades could be used if Contractor has demonstrated ability to work with this tool to Owner's Representative.
 5. Do not cut mortar where stones come loose, displaced and may fall. Those areas shall be handled with care and one row at a time shall be cut.
- B. Joint Pointing:
1. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
 2. Fill the voids with pointing mortar in layers. Compact each layer and allow it to become thumbprint hard before applying 1" depth simultaneously with final pointing.
 3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately 3/8" and third layer the remaining 1/4". Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing stones have rounded edges recess final layer slightly from face. Take care not to spread mortar over edges onto exposed masonry surfaces, or to feather edge mortar.
 4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
 5. Cure mortar by maintaining in a damp condition for not less than 72 hours. Provide temporary protection in areas exposed to direct sun.
 6. Where repointing work precedes cleaning of existing masonry, allow mortar to harden not less than 7 days before beginning cleaning work.

3.04 STONE PATCHING

- A. Workmanship:
1. Mortar workmanship should comply with all applicable recommendations of the material manufacturer's written specifications and requirements except as modified in this and the following section.
 2. Do not use any additives, such as bonding agents, accelerators, or retarders, in the mortar without prior written approval from the Manufacturer.
- B. Preparation for Patching:
1. Patch spall areas with approved repair mortar according to the manufacturer's printed instructions, except as modified herein.
 2. At areas to receive patches, remove all loose mortar and masonry. Cut away an additional 1/4" of the substrate to ensure the surface to be patched is solid and stable. "Sound" masonry with a hammer to verify its integrity. Remove any sealant residue.
 3. Cut the edges of the repair area to provide a minimum depth of 1/2". Do not overcut corners of patch; stop short of corner and chip out remainder by hand without damaging surrounding masonry. Do not allow any feathered edges in the

- patch area,
4. Roughen the substrate surface as necessary to achieve the surface roughness required by manufacturer for good bond, but to not damage the substrate surface.
 5. Clean all dust from surface and pores of the substrate, using clean water and a scrub brush. Leave surface damp for optimum bond.
 6. For very dry or porous surfaces, pre-wet the substrate ahead of time to prevent the substrate from drawing moisture out of the patch too quickly, Re-wet the surface just before applying the patching material.
- C. Mixing Mortar For Patching:
1. Do not mix more material than can be used within 30 minutes. Discard any material that has been mixed for 30 minutes or more.
 2. Mixing Ratio for limestone is as follows:
Pre-mixed patching mortar – Approximately 5 parts dry material to 1 part water.
 3. Mix water and dry ingredients well. Adjust amount of water depending on the weather and the porosity of the substrate in accordance with the manufacturer's printed instructions.
- D. Application of Patching Material:
1. Apply the Mortar Mix using a trowel in a series lifts with no waiting period or scratch coat necessary between layers, up to a total maximum thickness of 3". For patches thicker than 3", apply mortar in two layers, allowing the first layer to cure for a while before applying the second layer. Use light pressure during the applications. Work mortar firmly into the surface of the masonry, including the corners and under and around all mechanical anchors.
 2. Build up patching material so that it is slightly above adjacent masonry surface, Allow 15 to 30 minutes to set slightly, (this will vary depending on the weather – much longer in cool weather) then scrape off excess material using a straight edge (a plasterer's miter rod is good for this). Do not press down or "float" the patch. Where patches occur at panel edges or corners, form mortar to match the profile of the surrounding masonry. In all cases, finish patch so that is as indistinguishable as possible from the adjacent masonry.
 3. Clean any mortar residue from area surround the patch by sponging as many times as necessary with clean water. This should be done before patching material sets.
 4. Lightly mist the patch with water to wet the entire surface of the finished patch approximately 30 minutes to 1 hour after completion on hot sunny days and approximately 2 hours on cool or cloudy days. Time will vary with temperature and humidity. Mist at least once a day, but as often as possible on the two days following the patch installation. Install patch preferably on days when area will be available for misting during the next two consecutive days.

3.05 STONE REMOVAL AND REPLACEMENT

- A. Carefully remove by hand at locations indicated.
- B. Remove mortar, loose particles and other debris from stone and stone surrounding.
- C. Replace removed stone with new stone matching existing, including size. Butter vertical joints for full width before setting and set units in full bed of mortar.
 1. Repoint new mortar joints to comply with requirements for repointing existing masonry, except rake out joints before mortar sets.

3.06 BRICK REMOVAL AND REBUILDING

- A. Brick Removal:
 1. Locations of brick removal will be marked by Architect and Owner's Representative and include the following:
 - a. Damaged brick to be replaced as directed by Architect and Owner's Representative.
 - b. Removal and rebuilding parapet walls.

- c. Removal and tooth-in around the new openings.
2. Carefully remove by hand at locations indicated any brick which are damaged, spalled or deteriorated. Cut out full units from joint to joint and in manner to permit replacement with full size units. Small hand power saw (3-4" diameter) with 1/8" thick diamond blade only could be used for bed joints. Cut out head joints by hand with chisel and mallet only.
3. Support and protect masonry indicated to remain which surround removal area.
4. Salvage as many whole, undamaged bricks as possible.
5. Remove mortar, loose particles and soil from salvaged brick by cleaning with brushes and water. Store brick for reuse.
6. Clean remaining brick at edges of removal areas by removing mortar, dust, and loose debris in preparations of rebuilding.
7. Repair any damaged flashing to make watertight.

END OF SECTION 04 01 00

SECTION 04 05 13.91

MASONRY RESTORATION MORTARING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Standard tuckpoint mortar for existing masonry.
- B. Colored tuckpoint mortar for existing masonry.

1.02 RELATED SECTIONS

- A. Section 04 01 00 - Maintenance of Unit Masonry
- B. Section 04 20 00 - Unit Masonry

1.03 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 530.1-02 - Specification for Masonry Structures.
- B. ASTM International (ASTM):
 - 1. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar.
 - 2. ASTM C 150 - Standard Specification for Portland Cement.
 - 3. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.
 - 4. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete.
 - 5. ASTM C 270 - Standard Specification for Mortar for Unit Masonry.
 - 6. ASTM C 595 - Standard Specification for Blended Hydraulic Cements.
 - 7. ASTM C 780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Masonry.
 - 8. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete.
 - 9. ASTM C 1093 - Standard Practice for Accreditation of Testing Agencies for Unit Masonry.
 - 10. ASTM C 1157 - Standard Performance Specification for Hydraulic Cement.
 - 11. ASTM C 1314 - Standard Test Method for Compressive Strength of Masonry Prisms.
 - 12. ASTM C 1586 - Standard Guide for Quality Assurance of Mortars.
 - 13. ASTM C 1714 - Standard Specification for Pre-blended Dry Mortar Mix for Unit Masonry.
 - 14. ASTM E 329 - Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials used in Construction.
 - 15. ASTM E 514 - Standard Test Method for Water Penetration and Leakage Through Masonry.
- C. International Masonry Industry All-Weather Council (IMIAC):
 - 1. IMIAC - International Masonry Industry All-Weather Council (IMIAC): Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.
 - 2. IMIAC - International Masonry Industry All-Weather Council (IMIAC): Recommended Practices and Guide Specifications for Hot Weather Masonry Construction.
- D. National Concrete Masonry Association (NCMA):
 - 1. NCMA TEK Bulletin #8-2A - Removal of Stains from Concrete Masonry.
 - 2. NCMA TEK Bulletin #8-3A - Control and Removal of Efflorescence.
- E. The Brick Industry Association (BIA):
 - 1. BIA Technical Note 20 – Cleaning Brick.

1.04 SYSTEM DESCRIPTION

- A. Design and Performance Requirements: Provide mortar mixes that have been selected, manufactured, mixed and installed to comply with the following:
 - 1. ASTM C 270.
 - 2. ASTM C 1714.

1.05 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 – Submittal Procedures
- B. Product Data: Submit manufacturer's product data.
- C. Samples: Submit selection and verification samples of colored mortar.
- D. Quality Assurance/Control Submittals:
 - 1. Submit manufacturer's certificates that products meet or exceed specified requirements.
 - 2. Submit test results prepared by a qualified independent testing laboratory.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm specializing in manufacture of masonry installation materials, including mortars, with minimum 10 years experience.
- B. Pre-Installation Meeting: At least three weeks prior to commencing masonry work conduct a meeting at the project site to discuss contract requirements and job conditions; require the attendance of masonry contractor, and installers of related materials; notify Architect in advance of meeting.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Storage and Protection: Cementitious materials shall be manufactured and stored off the ground, under cover and shall be kept dry in accordance with ASTM C1714.

1.08 PROJECT CONDITIONS

- A. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.
 - 1. Cold Weather Requirements: In accordance with "Recommended Practices and Guide Specifications for Cold Weather Masonry Construction" by IMIAC.
 - 2. Hot Weather Requirements: "Recommended Practices and Guide Specifications for Hot Weather Masonry Construction" by IMIAC.
- B. Do not build or apply mortar products on frozen substrates.
 - 1. Remove and replace mortar damaged by frost or by freezing conditions.
- C. Vent temporary heaters to exterior to prevent damage to masonry work from carbon dioxide build-up.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: SPEC MIX®, Inc., which is located at: 1230 Eagan Industrial Road, Suite 160, Eagan, MN 55121; Toll Free Tel: 888-SPEC-MIX (773-2649); Tel: 651-994-7120; Email: request info (info@specmix.com); Web: www.specmix.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 – Substitution Procedures.
- C. Obtain products from a single manufacturer.

2.02 MORTAR

- A. Tuckpoint Mortar: SPEC MIX Tuckpoint Mortar is a specialized blend of Portland cement, hydrated lime and dried masonry sand specifically formulated for superior bond and tooling characteristics when applied in tuckpointing applications.
 - 1. Applicable Standards: ASTM C 144, ASTM C 150, ASTM C 207, ASTM C 270 for tuckpoint mortar, ASTM C 595, ASTM C 780, ASTM C 1093, ASTM C 1157, ASTM C 1314, ASTM C 1586, ASTM C 1714, ACI 530.1, IMIAC.
- B. Colored Tuckpoint Mortar: SPEC MIX Tuckpoint Mortar Color is a specialized blend of Portland cement, hydrated lime, dried masonry sand and color pigment specifically formulated for superior bond and tooling characteristics when applied in tuckpointing applications.
 - 1. Pigments:
 - a. Natural and synthetic, milled, blended iron oxides.
 - b. Carbon added for darker colors shall not exceed 4 percent.
 - c. Produce uniform and consistent color.
 - d. Inert, stable to atmospheric conditions, sunfast, weather resistant, alkali resistant, water insoluble, lime proof and nonbleeding.
 - e. Free of deleterious fillers and extenders.

2. Color: Custom color.
3. Applicable Standards: ASTM C 144, ASTM C 150, ASTM C 207, ASTM C 270 for tuckpoint mortar, ASTM C 595, ASTM C 780, ASTM C 979, ASTM C 1093, ASTM C 1157, ASTM C 1314, ASTM C 1586, ASTM C 1714, ACI 530.1, IMIAC.

2.03 ACCESSORY MATERIALS

- A. Water: Clean and free from deleterious acids, alkalis, and organic matter.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive masonry work and conditions under which masonry will be installed.
- B. Do not proceed with masonry work until surfaces and conditions comply with requirements indicated in referenced masonry installation standard and manufacturer's printed instructions.

3.02 REMOVAL OF EXISTING MORTAR

- A. Removal of Existing Mortar: Cut out existing mortar joints (both bed and head joints) and remove by means of a toothing chisel or a special pointer's grinder, to a uniform depth of to 3/4-inch, or until sound mortar is reached.
 1. Take care to not damage edges of existing masonry units to remain.
- B. Remove dust and debris from the joints by brushing, blowing with air or rinsing with water. Do not rinse when temperature is below freezing.

3.03 REPLACEMENT OF MASONRY UNITS

- A. Remove damaged, spalled, or deteriorated masonry units. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full size units.
- B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- C. Clean masonry units surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- D. Replace removed units with new units that match existing. Do not use broken units unless they can be cut to usable size.
- E. Install replacement units into bonding and coursing pattern of existing units. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
- F. Maintain joint width for replacement units to match existing joints.
- G. Lay replacement units with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place.

3.04 MIXING

- A. Mixing: As recommended by manufacturer.
- B. Retempering:
 1. Retemper mortar by adding additional mixing water only to replace water lost due to evaporation.
 2. Do not retemper colored mortars.
 3. Discard mortar 2.5 hours after initial mixing.
- C. Colored Mortar: Consistency of appearance shall be maintained throughout the project.

3.05 INSTALLATION OF TUCK POINTING MORTAR

- A. Install mortar in accordance with ACI/ASCE-530.1:
- B. Immediately prior to application of mortar, dampen joints to be tuck pointed. Prior to application of pointing mortar, allow masonry units to absorb surface water.
- C. Tightly pack mortar into joints in thin layers, approximately 1/4-inch thick maximum.
- D. Allow layer to become "thumbprint hard" before applying next layer.
- E. Pack final layer flush with surfaces of masonry units. When mortar becomes "thumbprint hard", tool joints.
- F. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

3.06 TOOLING OF JOINTS

- A. Tool joints in patch work with a jointing tool to match the existing surrounding joints.

3.07 CLEANING

- A. Comply with cleaning procedures and recommendations of the manufacturers of both the cleaning solution and the unit masonry.
- B. Remove efflorescence from masonry wall exposed in the finished work in accordance with manufacturer's recommendation, NCMA TEK Bulletin #8-3A and/or BIA Technical Note 20 – Cleaning Brick.
- C. Remove dirt or stains from masonry walls exposed in the finished work in accordance with the manufacturer's recommendations, NCMA TEK Bulletin #8-2A and/or BIA Technical Note 20 – Cleaning Brick.
- D. Comply with applicable environmental laws and restrictions.
- E. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
1. Do not use metal scrapers or brushes.
 2. Do not use acidic or alkaline cleaners.

3.08 PROTECTION

- A. Protection: Protect newly pointed joints from rain, until pointed joints are sufficiently hard enough to prevent damage.
- B. Cold Weather Protection:
1. Tuck pointing may be performed in freezing weather when methods of protection are utilized.
 2. Comply with applicable sections of "Recommended Practices for Cold Weather Construction" as published by International Masonry Industry All Weather Council.
 3. Existing surfaces at temperatures to prevent mortar from freezing or causing other damage to mortar.
- C. Protect installed work from damage due to subsequent construction activity on the site.

END OF SECTION 04 05 13.91

SECTION 04 20 00

UNIT MASONRY

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes unit masonry assemblies consisting of the following:
 - 1. Face brick.
 - 2. Mortar and grout.
 - 3. Ties and anchors.
 - 4. Embedded flashing.
 - 5. Miscellaneous masonry accessories.
 - 6. Steel lintels

1.02 SUBMITTALS

- A. Product Data: For each different masonry unit, accessory, and other manufactured product specified.
- B. Samples for Initial Selection: For the following:
 - 1. Unit masonry Samples in small-scale form showing the full range of colors and textures available for each different exposed masonry unit required.

1.03 QUALITY ASSURANCE

- A. Codes and Standards: Comply with the provisions of the following codes, specifications, and standards except where more stringent requirements are shown or specified.
 - 1. IMIAC - International Masonry Industry All-Weather Council: Recommended Practice and Guide Specification for Cold Weather Masonry Construction.
 - 2. ASTM C 90 – Standard Specification for Load-bearing Concrete Masonry Units.
 - 3. ASTM A 615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 4. ASTM A 82 - Standard Specification for Steel Wire, Plain for Concrete Reinforcement
 - 5. ASTM A 153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 - 6. ASTM A 641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
- B. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source from a single manufacturer for each product required.
- C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source or producer for each aggregate.

1.04 MOCKUPS

- A. Before installing unit masonry, build mockups to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Locate up to (4) four mockups in the locations as directed by Architect.
 - 2. Build mockups for the following types of masonry in sizes approximately 48 inches long by 48 inches high by full thickness, including face and backup wythes and accessories. Include a sealant-filled joint at least 16 inches long in each mockup; include soldier-coursing for face brick assembly.
 - a. Each type of exposed unit masonry construction.
 - 3. Clean exposed faces of mockups with masonry cleaner as indicated.
 - 4. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 - 5. Mockups for face brick and interior unit masonry may be constructed back-to-back where applicable.

6. Protect accepted mockups from the elements with weather-resistant membrane.
7. Maintain approved mockups during construction in an undisturbed condition as a standard for judging the completed Work.
8. Approval of mockups is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; and aesthetic qualities of workmanship.
 - a. Approval of mockups is also for other material and construction qualities specifically approved by Architect in writing.
 - b. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups, unless such deviations are specifically approved by Architect in writing.
9. Demolish and remove mockups when directed.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.
- C. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.06 PROJECT CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
 1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
- B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.
- C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
 1. Protect base of walls from rain-splashed mud and from mortar splatter by coverings spread on ground and over wall surface.
 2. Protect sills, ledges, and projections from mortar droppings.
 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
- E. Hot-Weather Requirements: Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required.
 1. When ambient temperature exceeds 100 deg F, or 90 deg F with a wind velocity greater than 8 mph, do not spread mortar beds more than 48 inches ahead of masonry. Set masonry units within one minute of spreading mortar.

PART 2 – PRODUCTS

2.01 BRICK

- A. General: Provide shapes indicated and as follows, with exposed surfaces matching finish and color of exposed faces of adjacent units.

1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
 - B. Face Brick: Facing brick complying with ASTM C 216 or hollow brick complying with ASTM C 652, Class H40V (void areas between 25 and 40 percent of gross cross-sectional area).
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Glen Gary Brick.
 - b. United Brick.
 - c. Yankee Hill
 2. Unit Compressive Strength: SW or MW
 3. Type: FBX or HBX
 4. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested per ASTM C 67.
 5. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
 6. Size: Manufactured to the following actual dimensions:
 - a. Modular: 3-5/8 inches wide by 2-1/4 inches high by 7-5/8 inches long.
 7. Application: Use where brick is exposed, unless otherwise indicated.
- 2.02 MASONRY LINTELS**
- A. Install steel lintels above all openings and recesses in masonry construction. Lintels not shown on the construction documents shall be as follows for 4" nominal thick masonry:
 1. 0-2 feet span 1/4" plate
 2. 2-4 feet span L-3.5x3.5x1/4"
 3. 4-6 feet span L-5x3.5x1/4" LLV
 4. 6-8 feet span L-5x3.5x1/4" LLV
 - B. All steel lintels exposed to weather shall be galvanized according to ASTM A 123
- 2.03 MORTAR AND GROUT MATERIALS**
- A. Masonry Mortar:
 1. Mortar mixed to match existing historic mortar
 2. Type O to compliant with ASTM C270
 - B. Portland Cement-Lime Mix: Packaged blend of Portland cement complying with ASTM C 150, Type I or II, except Type III may be used for cold-weather construction, and hydrated lime complying with ASTM C 207.
 - C. Aggregate for Mortar: ASTM C 144; except for joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
 - D. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494, Type C, and recommended by the manufacturer for use in masonry mortar of composition indicated.
 - E. Water: Potable.
- 2.04 REINFORCEMENT**
- A. Uncoated Steel Reinforcing Bars: ASTM A 615 or ASTM A 996, Grade 60.
- 2.05 TIES AND ANCHORS, MANUFACTURER**
- A. Acceptable Manufacturer:
 Heckmann Building Products
 110 Richards Ave.
 Norwalk, CT 06854-1685
 800-621-4140
 Email: info@heckmannanchors.com
 Website: www.heckmannanchors.com
- 2.06 THRU-WALL MEMBRANE FLASHING**
- A. Composite, flexible flashing: Where indicated on Drawings provide self-sealing, self-healing, fully adhering, composite flexible flashing consisting of 32 mil thick pliable and

highly adhesive rubberized asphalt compound bonded completely and integrally to 8 mil thick, high-density, four plies of cross laminated polyethylene film to produce an overall 40 mil thickness in rolls. Protected from contamination from dust or dirt by a silicone-coated release sheet, to be removed immediately before installation. Similar and equal to Perm-A-Barrier Wall Flashing by W.R. Grace and Company.

2.07 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Fabricate from the following metal complying with requirements as shown on the Drawings:
1. Stainless Steel: ASTM A 240, Type 304, 0.016 inch thick minimum.
 2. Fabricate continuous flashings in sections 96 inches long minimum, but not exceeding 12 feet. Provide splice plates at joints of formed, smooth metal flashing.
 3. Fabricate through-wall metal flashing embedded in masonry from sheet metal indicated above and with ribs at 3-inch intervals along length of flashing to provide an integral mortar bond.
 4. Fabricate through-wall flashing with snaplock receiver on exterior face where indicated to receive counterflashing.
 5. Fabricate through-wall flashing with drip edge indicated. Fabricate by extending flashing 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
 6. Metal Drip Edge: Fabricate from stainless steel. Extend at least 3 inches into wall and 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
- B. Flexible Flashing: Use the following unless otherwise indicated:
1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.030 inch.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Advanced Building Products Inc.; Strip-N-Flash.
 - 2) Carlisle Coatings & Waterproofing Inc.; CCW-705-TWF Thru-Wall Flashing.
 - 3) Dayton Superior Corporation, Dur-O-Wal Division; Dur-O-Barrier Thru-Wall Flashing.
 - 4) Fiberweb, Clark Hammerbeam Corp; Aquaflash 500.
 - 5) Grace Construction Products; W.R. Grace & Co. -- Conn; Perm-A-Barrier Wall Flashing.
 - 6) Heckmann Building Products, Inc.; No. 82 Rubberized-Asphalt Thru-Wall Flashing.
 - 7) Hohmann & Barnard, Inc.; Textroflash.
 - 8) Meadows, W.R., Inc.; Air-Shield Thru-Wall Flashing.
 - 9) Polyguard Products, Inc.; Polyguard 400.
 - 10) Sandell Manufacturing Co., Inc.; Sando-Seal.
 - 11) Williams Products, Inc.; Everlastic MF-40.
 - b. Accessories: Provide preformed corners, end dams, other special shapes, and seaming materials produced by flashing manufacturer.
- C. Application: Unless otherwise indicated, use the following:
1. Where flashing is indicated to receive counterflashing, use metal flashing.
 2. Where flashing is indicated to be turned down at or beyond the wall face, use metal flashing.
 3. Where flashing is partly exposed and is indicated to terminate at the wall face, use metal flashing or flexible flashing with a metal sealant stop.
 4. Where flashing is fully concealed, use flexible flashing.

- D. Solder and Sealants for Sheet Metal Flashings: As specified in Section 07 62 00 "Sheet Metal Flashing and Trim."
 - 1. Solder for Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.
 - 2. Elastomeric Sealant: ASTM C 920, chemically curing sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by the flashing manufacturer for bonding flashing sheets to each other and to substrates.
- F. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Metal Flashing:
 - a. Cheney 2-Way Flashing; Cheney Flashing Company, Inc.
 - b. Equivalent Keystone Interlocking Thruwall Flashing; Keystone Flashing Co.
 - c. Substitutions: Allowed in accordance with Section 01 60 00.

2.08 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; formulated from neoprene.
- B. Preformed Control-Joint Gaskets: Designed to fit standard sash block and to maintain lateral stability in masonry wall. Made from styrene-butadiene-rubber compound complying with ASTM D 2000, Designation M2AA-805.
- C. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).
- D. Wicking Material: Cotton or polyester rope, 1/4 to 3/8 inch in diameter, in length required to produce 2-inch exposure on exterior and 18 inches in cavity between wythes.
- E. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Advanced Building Products Inc.; Mortar Break.
 - b. CavClear/Archovations, Inc.; Stone Mat.
 - c. Dayton Superior Corporation, Dur-O-Wal Division; Polytite MortarStop.
 - d. Mortar Net USA, Ltd; Mortar Net.
 - 2. Provide one of the following configurations:
 - a. Strips, full-depth of cavity and 10 inches high, with dovetail shaped notches 7 inches deep that prevent clogging with mortar droppings.
 - b. Strips, not less than 3/4 inch thick and 10 inches high, with dimpled surface designed to catch mortar droppings and prevent weep holes from clogging with mortar.
 - c. Sheets or strips full depth of cavity and installed to full height of cavity.
 - d. Sheets or strips not less than 3/4 inch thick and installed to full height of cavity with additional strips 4 inches high at weep holes and thick enough to fill entire depth of cavity and prevent weep holes from clogging with mortar.
- F. Masonry Cleaner:
 - 1. Non-Acidic cleaner equivalent to Sure-Klean Vana Trol; Pro So Co, Inc.
- G. Water Repellent:
 - 1. Basis of Design: Chem-Trete, by Degussa Corp.; "BSM-40 VOC.
- H. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells with loops for holding reinforcing bars in center of cells. Units are formed from 0.142-inch steel wire, hot-dip galvanized after fabrication.
 - 1. Provide units with either two loops or four loops as needed for number of bars

indicated.

2. Reinforcing Bar Positioners:
 - a. D/A 811; Dur-O-Wal, Inc.
 - b. D/A 816; Dur-O-Wal, Inc.
 - c. No. 376 Rebar Positioner; Heckman Building Products, Inc.
 - d. #RB Rebar Positioner; Hohmann & Barnard, Inc.
 - e. #RB-Twin Rebar Positioner; Hohmann & Barnard, Inc.

2.09 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
 1. Do not use calcium chloride in mortar or grout.
 2. Limit cementitious materials in mortar to Portland cement and lime.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in the form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Before installation, examine rough-in and built-in construction to verify actual locations of piping connections.
- C. Verify that field conditions are acceptable and are ready to receive work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.
- E. Beginning of installation means installer accepts existing conditions.
- F. Coordinate placement of anchors supplied to other Sections.

3.02 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining condition, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
- C. Direct and coordinate placement of metal anchors supplied to other Sections.
- D. Thickness: Build cavity and composite walls and other masonry construction to the full thickness shown. Build single-wythe walls to the actual widths of masonry units, using units of widths indicated.
- E. Build chases and recesses to accommodate items specified in this Section and in other Sections of the Specifications.
- F. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
- G. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- H. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

3.03 CONSTRUCTION TOLERANCES

- A. Comply with tolerances in ACI 530.1/ASCE 6/TMS 602 and the following:
- B. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/4 inch in 20 feet, nor 1/2 inch maximum.
- C. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, nor 1/2 inch maximum.

- D. For conspicuous horizontal lines, such as exposed lintels, sills, parapets, and reveals, do not vary from level by more than 1/4 inch in 20 feet, nor 1/2 inch maximum.
- E. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
- F. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.

3.04 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Lay exposed masonry in the following bond pattern; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.
 - 1. Running bond with vertical joint in each course centered on units in courses above and below.
- C. Stopping and Resuming Work: In each course, rack back one-half-unit length for one-half running bond; do not tooth. Clean exposed surfaces of set masonry, wet clay masonry units lightly if required, and remove loose masonry units and mortar before laying fresh masonry.
- D. Built-in Work: As construction progresses, build in items specified under this and other Sections of the Specifications. Fill in solidly with masonry around built-in items.
- E. Isolate masonry partitions from vertical structural framing members with a control joint.
- F. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

3.05 MORTAR MIXING

- A. Proportion mortar by dry volume using accurately calibrated equipment similar and equal to equipment manufactured by VOL-CON, Davenport, IA, phone (319) 383-1856; measurement by shovel not permitted. Machine mix for at least 3 minutes and not over 5 minutes with maximum amount of water to produce workable consistency.
- B. Proportion "DRY BLOCK" admix according to manufacturer's recommendations.
- C. Do not use admixtures to lower freezing point of mortars.
- D. Use mortar within 2-1/2 hours after initial mixing. When necessary, retemper mortar within 2 hours from mixing to replace water lost by evaporation. Do not use mortar or grout after it has begun to set.

3.06 MORTAR BEDDING AND JOINTING

- A. At cavity walls, bevel beds away from cavity, to minimize mortar protrusions into cavity. As work progresses, trowel mortar fins protruding into cavity flat against the cavity face of the brick.
- B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than the joint thickness, unless otherwise indicated.

3.07 CAVITIES

- A. Keep cavities clean of mortar droppings and other materials during construction.
- B. Use wood strips temporarily placed in cavity to collect mortar droppings. As work progresses, remove strips, clean off mortar droppings, and replace in cavity.

3.08 ANCHORING MASONRY TO STRUCTURAL MEMBERS

- A. Pos-I-Tie® Barrel Screws
 - 1. Self-Drilling Screw: Use a standard drill with a variable clutch adjustment and a Pos-I-Tie® Chuck Adapter. Place the barrel end of the screw in the chuck adapter; drill through

the gypsum board and into the metal stud. No pre-drilling is required.

2. Concrete/CMU Screw: Use a standard hammer drill with a 3/16" (4.76 mm) masonry drill bit. Set the drill to Hammer mode and drill a 2" deep hole into the backup. Using a drill with the Pos-I-Tie® Chuck adapter in non-hammer mode, place the barrel end of the screw in the chuck adapter. Drill the screw into the hole.

3. Drill-It® Screw: Use a standard drill with a variable clutch adjustment and a Pos-I-Tie® Chuck Adapter. Place the barrel end of the screw in the chuck adapter, and drill the screw into the structural member. (Some structural steel may require pre-drilling a pilot hole)

3.09 BUILT-IN WORK

- A. As work progresses, build in metal door and glazed frames, fabricated metal lintels, anchor bolts, plates and other items furnished by other Sections.
- B. Build in items plumb and level.
- C. Do not build in organic materials subject to deterioration.

3.10 ANCHORING MASONRY VENEERS

- A. Anchor masonry veneers to wall framing with masonry-veneer anchors to comply with the following requirements:
 - 1. Fasten each anchor section through sheathing to wall framing with two metal fasteners of type indicated.
 - 2. Embed tie sections in masonry joints. Provide not less than 2 inches of air space between back of masonry veneer and face of sheathing.
 - 3. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
 - 4. Space anchors as indicated, but not more than 16 inches o.c. vertically and 24 inches o.c. horizontally, with not less than 1 anchor for each 2 sq. ft. of wall area. Install additional anchors within 12 inches of openings and at intervals, not exceeding 8 inches, around the perimeter.

3.11 LINTELS

- A. Install steel lintels where indicated
- B. Provide minimum bearing of 8 inches at each jamb, unless otherwise indicated.

3.12 FLASHING, WEEP HOLES, AND VENTS

- A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
- B. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Unless otherwise indicated, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
- C. Install flashing as follows:
 - 1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
 - 2. At lintels and shelf angles, extend flashing a minimum of 6 inches into masonry at each end. At heads and sills, extend flashing 6 inches at ends and turn up not less than 2 inches to form end dams.
 - 3. Interlock end joints of ribbed sheet metal flashing by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Section 07 92 00 "Joint Sealants" for application indicated.
 - 4. Install metal drip edges and sealant stops with ribbed sheet metal flashing by interlocking hemmed edges to form hooked seam. Seal seam with elastomeric sealant complying with requirements in Section 07 92 00 "Joint Sealants" for application indicated.

5. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal drip edge.
- D. Install weep holes in the head joints in exterior wythes of the first course of masonry immediately above embedded flashing and as follows:
 1. Use specified weep/vent products to form weep holes.
 2. Use wicking material to form weep holes above flashing in brick sills. Turn wicking down at lip of sill to be as inconspicuous as possible.
 3. Space weep holes 24 inches o.c.
 4. Trim wicking material flush with outside face of wall after mortar has set.
- E. Trim wicking material used in weep holes flush with outside face of wall after mortar has set.

3.13 REPAIRING, POINTING, CLEANING AND SEALING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes.
 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing the surfaces thoroughly with clear water.
 5. Clean masonry with a specified cleaner applied according to manufacturer's written instructions.
 6. Following cleaning and preparation procedures, apply water repellent weatherproofing materials in accordance with manufacturer's instructions.

3.14 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Excess Masonry Waste: Remove excess clean masonry waste and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04 20 00

SECTION 04 72 00

CAST STONE MASONRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Cast stone window sills, frieze banding and cast stone trim.
- B. Where indicated on the Drawings as "Precast Conc. Sill", and "Cast Stone Sill", provide Cast Stone (Portland Cement –based materials)

1.03 DEFINITIONS

- A. Cast Stone: Architectural precast concrete building units intended to simulate natural cut stone.

1.04 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for cast stone units.
- B. Shop Drawings: Show fabrication and installation details for all masonry units specified in this Section. Include dimensions; details of reinforcement and anchorages, if any; and indication of finished faces.
 - 1. Include building elevations showing layout of units and locations of joints and anchors.
- C. Samples: For each color and texture of Cast Stone required, 10 inches long in size with 6 inch minimum width. Color match for white limestone appearance of windowsill units to match existing by approval of Architect.
- D. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
 - 1. Include copies of material test reports for completed projects, indicating compliance of cast stone with ASTM C 1364.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing specified units similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to manufacture required units.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Pack, handle, and ship cast stone units in suitable packs or pallets.
 - 1. Lift with wide-belt slings; do not use wire rope or ropes that might cause staining. Move cast stone masonry units, if required, using dollies with wood supports.
 - 2. Store cast units on wood skids or pallets with nonstaining, waterproof covers. Arrange to distribute weight evenly and to prevent damage to units. Ventilate under covers to prevent condensation.
- B. Store installation materials on elevated platforms, under cover, and in a dry location.
- C. Store mortar aggregates where grading and other required characteristics can be maintained and contamination avoided.

1.07 COORDINATION

- A. Coordinate production and delivery of cast stone masonry with unit masonry work to minimize the need for on-site storage and to avoid delaying the Work.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: At Contractor's option, provide Cast Stone Unit Masonry products. Subject to compliance with requirements, select manufacturer's from the following:
 - 1. Cast Stone:

- a. Basis of Design: Edwards Precast Concrete Co.
- b. Architectural Cast Stone, Inc.
- c. MarcStone, LLC
- d. Northfield Block Co
- d. Shipman Precast
- e. Continental Cast Stone

2.02 CAST STONE MATERIALS

- A. General: Comply with ASTM C 1364 and the following:
- B. Portland Cement: ASTM C 150, Type I, containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
- C. Coarse Aggregates: Granite, quartz, or limestone complying with ASTM C 33; gradation as needed to produce required textures.
- D. Fine Aggregates: Manufactured or natural sands complying with ASTM C 33, gradation as needed to produce required textures.
- E. Air-Entraining Admixture: ASTM C 260, certified by the manufacturer to be compatible with other admixtures used.
 - 1. Add to mixes for units exposed to the exterior at manufacturer's prescribed rate to result in an air content of 5 to 7 percent.
- F. Reinforcement: Deformed steel bars complying with ASTM A 615.
 - 1. Epoxy Coating: ASTM A 775.
 - 2. Galvanized Coating: ASTM A 767.
- G. Embedded Anchors and Other Inserts: Fabricated from steel complying with ASTM A 36, and hot-dip galvanized to comply with ASTM A 123.

2.03 CAST STONE UNITS

- A. Provide cast stone units complying with ASTM C 1364.
 - 1. Provide units that are resistant to freezing and thawing as determined by laboratory testing according to ASTM C 666, Procedure A, as modified by ASTM C 1364.
- B. Size and Configuration:
 - 1. Typical Units: Refer to Drawings for profile, standard length, height and details.
 - 2. Smooth face.
- C. Reinforce units as indicated and as required by ASTM C 1364. Use galvanized or epoxy-coated reinforcement when covered with less than 1-1/2 inches of material.
- D. Fabricate units with sharp edges and details accurately reproduced with indicated texture on all exposed surfaces, unless otherwise indicated.
 - 1. Slope exposed horizontal surfaces at least 1:12, unless otherwise indicated.
 - 2. Provide raised fillets at backs of sills and at ends indicated to be built into jambs.
 - 3. Provide drips on projecting elements, unless otherwise indicated.
- E. Cure and finish units as follows:
 - 1. Cure units in totally enclosed curing room under dense fog and water spray at 95 percent relative humidity for 24 hours.
 - 2. Yard cure units until the sum of the mean daily temperatures for each day equals or exceeds 350 deg F.
 - 3. Acid etch units to remove cement film from surfaces indicated to be finished.
- F. Colors and Textures: As selected by Architect from manufacturer's full range for these characteristics.

2.04 MORTAR MATERIALS

- A. Refer to Section 04 05 13.91.

2.05 ACCESSORIES

- A. Anchors: Type and size indicated, fabricated from steel complying with ASTM A 36, and hot-dip galvanized to comply with ASTM A 123.
- B. Proprietary Acidic Cleaner: Manufacturer's standard-strength, general-purpose cleaner designed for removing mortar/grout stains, efflorescence, and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces; expressly

approved for intended use by cast stone manufacturer and expressly approved by cleaner manufacturer for use on cast stone and adjacent masonry materials.

1. Products: Subject to compliance with requirements, provide one of the following or approved equal:
 - a. 202 New Masonry Detergent; Diedrich Technologies, Inc.
 - b. 202V Vana-Stop; Diedrich Technologies, Inc.
 - c. Sure Klean No. 600 Detergent; ProSoCo, Inc.
 - d. Sure Klean Vana Trol; ProSoCo, Inc.
- C. Weep Vents: Molded polyvinyl Chloride grilles; insect proof, as recommended by cast masonry manufacturer

2.06 MORTAR MIXES

- A. Comply with requirements in Division 4 Section for mortar mixes with Cast Stone.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of cast stone.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install cast units to comply with requirements in Division 4 Section "Unit Masonry".
- B. Set cast units as indicated on Drawings. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
- C. Drench units with clear water just before setting.
- D. Set units in full bed of mortar with full head joints, unless otherwise indicated. Build anchors and ties into mortar joints as units are set.
 1. Fill dowel holes and anchor slots with mortar.
 2. Fill collar joint solid as units are set.
 3. Build concealed flashing into mortar joints as units are set.
 4. Leave head joints open in coping and other units with exposed horizontal surfaces. Keep joints clear of mortar, and rake out to receive sealant.
- E. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.
- F. Provide expansion, control, and pressure-relieving joints of widths and at locations indicated.
 1. Sealing joints is specified in Division 7 Section "Joint Sealants."
 2. Keep joints free of mortar and other rigid materials.

3.03 INSTALLATION TOLERANCES

- A. Variation from Plumb: Do not exceed 1/8 inch in 10 feet or 1/4 inch in 20 feet or more.
- B. Variation from Level: Do not exceed 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 3/8 inch maximum.
- C. Variation in Joint Width: Do not vary joint thickness more than 1/8 inch in 36 inches or one-fourth of nominal joint width, whichever is less.
- D. Variation in Plane between Adjacent Surfaces (Lipping): Do not exceed 1/16-inch difference between planes of adjacent units or adjacent surfaces indicated to be flush with units.

3.04 ADJUSTING AND CLEANING

- A. Remove and replace stained and otherwise damaged units and units not matching approved Samples. Cast units may be repaired if methods and results are approved by Architect.
- B. Replace units in a manner that results in cast units matching approved Samples, complying with other requirements, and showing no evidence of replacement.
- C. In-Progress Cleaning: Clean cast units as work progresses. Remove mortar fins and

smears before tooling joints.

- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed cast units as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Protect adjacent surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
3. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
4. Clean cast units by bucket and brush hand-cleaning method described in BIA Technical Notes No. 20 Revised II, using job-mixed detergent solution.
5. Clean cast units with proprietary acidic cleaner applied according to manufacturer's written instructions. Verify compatibility of cleaners and cleaning methods with cast unit masonry manufacturer prior to using.

3.05 CLEANING AND FIELD SEALING

- A. Apply two coats of water repellant, to all surfaces that will be exposed when installed, in field, as early as practicable after cleaning.

END OF SECTION 04 72 00

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Concealed wood blocking, cants, supports, and nailers.
 - 2. Structural dimension lumber framing.
 - 3. Non-structural dimension lumber framing.
 - 4. Rough opening framing for doors, windows, and roof openings.
 - 5. Sheathing.
 - 6. Subflooring.
 - 7. Preservative treated wood materials

1.03 DEFINITIONS

- A. Rough Carpentry: Carpentry work not specified in other Sections and not exposed, unless otherwise indicated.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber, plywood, and other panels; place spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

1.05 SUBMITTALS

- A. Product Data: Provide technical data on wood preservative materials and application instructions.
- B. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

1.06 QUALITY ASSURANCE

- A. Lumber: Comply with PS 20 "American Softwood Lumber Standard" and approved grading rules and inspection agencies.
- B. AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; American Forest and Paper Association.
- C. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- D. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- F. AWP A U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association.
- G. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce.

PART 2 - PRODUCTS

2.01 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by grading agency.
 - 3. Grading Agency: Any grading agency whose rules are approved by the Board of

Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

- B. Lumber fabricated from old growth timber is not permitted.

2.02 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPAC2 (lumber) and AWPAC9 (plywood), except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPAC31 with inorganic boron (SBX).
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
1. Wood cants, nailers, curbs, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 4. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.
 5. Wood floor plates that are installed over concrete slabs-on-grade.

2.03 DIMENSION LUMBER

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: Kiln-dry or MC15.
- C. Stud Framing (2 by 2 through 2 by 6):
1. Species: Spruce-Pine-Fir or Douglas-Fir-Larch.
 2. Grade: No. 2.
- D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):
1. Species: Spruce-Pine-Fir or Douglas-Fir-Larch.
 2. Grade: No. 2.
- E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Lumber: S4S, No. 2 or Standard Grade.
 2. Boards: Standard or No. 3.

2.04 STRUCTURAL COMPOSITE LUMBER

- A. At Contractor's option, structural composite lumber may be substituted for concealed dimension lumber and timbers.
- B. Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.
1. Provide lumber and materials meeting or exceeding the following standards of quality and minimum base design values:
 - a. Flexural Stress (Fb): 2,600 psi
 - b. Compression Parallel to Grain (Fc): 2,510 psi
 - c. Modulus of Elasticity (E): 1,900,000 psi
 - d. Shear Modulus of Elasticity (G): 118,750 psi
 2. Manufacturers:
 - a. Weyerhaeuser: weyerhaeuser.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.05 CONSTRUCTION PANELS

- A. Subfloor/Underlayment Combination: APA Rated Sturd-I-Floor, plywood or OSB

1. Bond Classification: Exposure 1.
2. Span Rating: 48.
3. Edges: Tongue and groove.
4. Thickness: 3/4", verify with adjacent existing subfloor to remain.
- B. Underlayment For resilient flooring: APA Underlayment; plywood, Exposure 1, 1/4 inch thick. Fully sanded faces at resilient flooring
- C. Roof Sheathing APA PRP-108. Rated Sheathing, Exposure 1, and as follows:
 1. Span Rating: 24/0.
 2. Thickness: 5/8 inch, nominal.
 3. Edges: Square with panel clips.
 4. OSB meeting span and exposure ratings will be acceptable.

2.06 ACCESSORIES

- A. Fasteners and Anchors: Provide fasteners of size and type that comply with requirements specified in this Article for material and manufacture.
 1. Metal and Finish: Hot-dipped galvanized steel, per ASTM A 153 for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 2. Anchors: Toggle bolt type for anchorage to hollow masonry.
 3. Nails, Brads, and Staples: ASTM F 1667.
 4. Power-Driven Fasteners: NES NER-272.
 5. Wood Screws: ASME B18.6.1.
 6. Lag Bolts: ASME B18.2.1.
 7. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.
 8. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
- B. Metal Framing Anchors
 1. Basis-of-Design Products: Subject to compliance with requirements, provide products by:
 - a. Simpson Strong-Tie Co., Inc.
 2. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
 3. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653, G60 coating designation.

2.07 MISCELLANEOUS LUMBER

- A. General: Provide Standard or No. 2 grade lumber for support or attachment of other construction, including the following:
 1. Blocking.
 2. Cants.
 3. Nailers.
 4. Furring
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.
- C. For concealed boards, provide lumber with 15 percent maximum moisture content and any of the following species and grades:
 1. Mixed southern pine, No. 2 grade; SPIB.
 2. Eastern softwoods, No. 2 Common grade; NeLMA.
 3. Northern species, No. 2 Common grade; NLGA.
 4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.08 ENGINEERED WOOD PRODUCTS

- A. Laminated-Veneer Lumber: A composite of wood veneers with grain primarily parallel to member lengths, manufactured with an exterior-type adhesive complying with ASTM D 2559. Product has the following allowable design values as determined according to ASTM D 5456:
 - 1. Extreme Fiber Stress in Bending, Edgewise: LVL members shall be designed to suit dimensions and loads indicated on Drawings.
- B. Manufacturers:
 - 1. Microllam LVL as manufactured by Truss Joist.
 - 2. Substitutions: Not allowed.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.
- D. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- E. Do not use materials with defects that impair quality of rough carpentry or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- F. Apply field treatment complying with AWP A M4 to cut surfaces of preservative-treated lumber and plywood.
- G. Securely attach rough carpentry work to substrate by anchoring and fastening as required.
- H. Install structural members full length without splices.
- I. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes, AFPA Wood Frame Construction Manual, and IBC 2015 Table 2304.10.1.
- J. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.
- K. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.
- L. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- M. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- N. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.
- O. Do not splice structural members between supports, unless otherwise indicated.
- P. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- Q. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required.
- R. Use finishing nails for exposed work, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.

3.02 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated. Build anchor bolts into masonry during installation of masonry work. Where possible, secure anchor bolts to formwork before concrete placement.
- C. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- D. In framed assemblies that have concealed spaces, provide solid wood fire blocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
- E. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- F. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- G. Specifically, provide the following non-structural framing and blocking:
 - 1. Wall-mounted door

3.03 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations contained in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.
 - 1. Plywood Backing Panels: Nail or screw to supports.

END OF SECTION 06 10 00

SECTION 06 40 23

INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the following:
 - 1. Interior standing and running trim.
 - 2. Wood base.
 - 3. Finish plywood.
 - 4. Wood trim.
 - 5. Wood window jam extensions
 - 6. Wood window sills
 - 7. Wood window stops
 - 8. Shop finishing of woodwork
- B. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips unless concealed within other construction before woodwork installation.

1.02 SUBMITTALS

- A. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show details full size.
 - 2. Show locations and sizes of furring, blocking and hanging strips, including concealed blocking and reinforcement specified in other sections.

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer (5 years minimum) who has completed architectural woodwork similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Fabricator Qualifications: A firm experienced (5 years minimum) in producing architectural woodwork similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork, construction, finishes, and other requirements.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials against weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.
- B. Deliver interior finish carpentry only when environmental conditions meet requirements specified for installation areas. If finish carpentry must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.
- C. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.

1.05 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed and indicate measurements on Shop Drawings.

1.06 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: Provide materials that comply with requirements of the AWI "Custom" quality standard for each type of woodwork, unless otherwise indicated.
- B. Wood Species and Cut for Transparent Finish (Lumber and Veneer):
 1. Typical (unless indicated otherwise): As indicated on Finish Schedule and Architectural Plans
- C. Wood Species for Opaque Finish: Any closed-grain hardwood.
- D. Wood Products (AWI custom grade hardwood and hardwood veneer): Comply with the following:
 1. Hardboard: AHA A135.4.
 2. Medium-Density Fiberboard: ANSI A208.2, Grade MD-Exterior Glue, made with binder containing no urea formaldehyde.
 3. Particleboard: ANSI A208.1, Grade M-3, 47 lbs. Density, of balanced 3-ply construction.
 4. Softwood Plywood: DOC PS 1, Medium Density Overlay.
 5. Hardwood Plywood and Face Veneers: HPVA HP-1, made with adhesive containing no urea formaldehyde.
 6. Lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by the American Lumber Standards' Committee Board of Review.
 - a. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.

2.02 INTERIOR STANDING AND RUNNING TRIM, WINDOW AND DOOR TRIM

- A. Hardwood Lumber Trim for Transparent Finish (Stain or Clear Finish): Per Finish Plans
 1. Species and Grade: Per Finish Plans
 2. Maximum Moisture Content: 10 percent.
 3. Finger Jointing: Not allowed.
 4. Gluing for Width: Use for lumber trim wider than 6 inches.
 5. Veneered Material: Use for lumber trim wider than 6 inches.
 6. Face Surface: Surfaced (smooth).
 7. Matching: Selected for compatible grain and color.
- B. Lumber Trim for Opaque Finish (Painted): Finished lumber (S4S), either finger-jointed or solid lumber.
- C. Hardwood Moldings for Transparent Finish (Stain or Clear Finish): WMMPA HWM 2, N-grade wood moldings made to patterns included in WMMPA HWM 1.
 1. Species: Per Finish Plans.
 2. Kiln-dried softwood or MDF, with exposed surfaces veneered with species indicated, may be used in lieu of solid wood.
 3. Maximum Moisture Content: 9 percent.
 4. Finger Jointing: Not allowed.
 5. Matching: Selected for compatible grain and color.

2.03 WOOD TRIM FOR TRANSPARENT SHOP FINISHING

- A. General: Provide materials that comply with requirements of the AWI "Custom" quality standard for each type of woodwork, unless otherwise indicated.
- B. Wood Species and Cut for Transparent Finish (Lumber and Veneer):
 1. Typical (unless indicated otherwise): As indicated on Finish Schedule and

Architectural Plans

2.04 SHOP FINISHING

- A. Quality Standard: Comply with AWI Section 1500, unless otherwise indicated.
- B. General: Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
- C. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.
 - 1. Back priming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to end-grain surfaces.
- D. Transparent Finish: Comply with requirements indicated below for grade, finish system, staining, and sheen, with sheen measured on 60-degree gloss meter per ASTM D 523:
 - 1. Grade: Premium.
 - 2. AWI Finish System TR-4: Conversion varnish, water-based latex acrylic
 - 3. Staining: Match approved samples for color.
 - 4. Open Finish for Open-Grain Woods: Do not apply filler to open-grain woods.
 - 5. Filled Finish for Open-Grain Woods: Apply paste wood filler and wipe off excess. Tint filler to match stained wood.
 - 6. Sheen: As indicated on Finish Schedule and Architectural Plans

2.05 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Window jamb extensions and window stops: Match existing material or as indicated on Finish Schedule.
- C. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
- D. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.

2.06 FABRICATION

- A. General: Complete fabrication to maximum extent possible before shipment to Project site. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.
 - 1. Shop cut openings to maximum extent possible. Sand edges of cutouts to remove splinters and burrs. Seal edges of openings in countertops with a coat of varnish.
- B. Interior Standing and Running Trim:
 - 1. For transparent-finished trim items wider than available lumber, use veneered construction. Do not glue for width.
 - 2. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
 - 3. Assemble casings in plant or shop except where limitations of access to place of installation require field assembly.
 - 4. Assemble moldings in shop to maximum extent possible. Miter corners in shop and prepare for field assembly with bolted fittings designed to pull connections together
 - 5. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.
- C. Interior Ornamental Work:
 - 1. Wood base.
 - 2. Grade: See Interior Finish Schedule.
 - 3. Wood Species: See Interior Finish Schedule.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
 - B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
 - C. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.02 PREPARATION**
- A. Clean substrates of projections and substances detrimental to application.
 - B. Condition woodwork to average prevailing humidity conditions in installation areas before installation.
 - C. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and back priming.
- 3.03 INSTALLATION**
- A. Quality Standard: Install woodwork to comply with AWI Section 1700 for the same grade specified in Part 2 of this Section for type of woodwork involved.
 - B. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
 - C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches. Install adjoining finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
 - D. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces and repair damaged finish at cuts.
 - E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation.
 - F. Complete the finishing work specified in this Section to extent not completed at shop or before installation of woodwork. Fill nail holes with matching filler where exposed. Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats were applied in shop.
 - I. Coordinate finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate finish carpentry.
- 3.04 STANDING AND RUNNING TRIM INSTALLATION**
- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints, where necessary for alignment.
 - 1. Match color and grain pattern across joints.
 - 2. Install trim after gypsum board joint finishing operations are completed.
 - 3. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.
- 3.05 ADJUSTING AND CLEANING**
- A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
 - B. Clean woodwork on exposed and semi-exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 06 40 23

SECTION 06 16 00

SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. See Structural Drawings for project specific requirements.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wall sheathing.
 - 2. Roof sheathing.
- B. Related Requirements:
 - 1. Section 061000 "Rough Carpentry"
 - 2. Section 072500 "Weather Barriers" for water-resistive barrier applied over wall sheathing.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
 - 3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5516.
 - 4. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of sheathing system that fail due to manufacturing defects within specified warranty period.
 - 1. Construction Period Warranty: Manufacturer shall warrant the panels and tape for weather exposure for a period of 180 days from installation.
 - 2. System Warranty Period: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested according to ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire

Resistance Directory" or from the listings of another qualified testing agency.

2.2 WOOD PANEL PRODUCTS

- A. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- B. Factory mark panels to indicate compliance with applicable standard.

2.3 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWPAC U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

2.4 WALL SHEATHING

- A. Plywood Sheathing: Exposure 1, Structural I sheathing.
 - 1. Span Rating: Not less than 32/16.
 - 2. Nominal Thickness: Not less than as indicated on the drawings.
- B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1, Structural I sheathing.
 - 1. Span Rating: Not less than 32/16.
 - 2. Nominal Thickness: Not less than as indicated on the drawings.

2.5 ROOF SHEATHING

- A. Plywood Sheathing: Exterior, Structural I sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than as indicated on the drawings.
- B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1, Structural I sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than as indicated on the drawings.

2.6 SUBFLOORING AND UNDERLAYMENT

- A. Plywood Subflooring: Exposure 1, Structural I single-floor panels or sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than as indicated on the drawings.
- B. Oriented-Strand-Board Subflooring: DOC PS 2, Exposure 1, Structural I sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than as indicated on the drawings.
- C. Underlayment: Provide underlayment in nominal thicknesses indicated or, if not indicated, not less than 1/4 inch (6.4 mm) over smooth subfloors and not less than 3/8 inch (9.5 mm) over board or uneven subfloors.
 - 1. Plywood Underlayment for Resilient Flooring: DOC PS 1, Exposure 1 Underlayment with fully sanded face.
 - 2. Plywood Underlayment for Carpet: DOC PS 1, Exposure 1, Underlayment.

2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.

- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Screws for Fastening Sheathing to Wood Framing: ASTM C 1002.
- E. Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.

2.8 MISCELLANEOUS MATERIALS

- A. Adhesives for Field Gluing Panels to Wood Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code and as indicated under special fastening provisions of the structural drawings.
- D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
- E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- F. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Wall and Roof Sheathing:
 - a. Nail to wood framing.
 - b. Screw to cold-formed metal framing.
 - c. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION 06 16 00

SECTION 07 21 00

THERMAL INSULATION

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the following:
 - 1. Concealed building insulation.
 - 2. Glass-fiber blanket insulation.
 - 3. Spray polyurethane foam insulation.

1.02 SUBMITTALS

- A. Product Data: For each type of product indicated when requested by Architect.

1.03 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of building insulation through one source.
- B. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

1.05 PERFORMANCE CRITERIA

- A. Thermal Resistance Values (R):
 - 1. Thermal resistance or material thickness shall be as shown on Drawings and scheduled herein.
 - 2. Indicated "R" shall be for the insulation material by itself per ASHRAE.
- B. Fire Hazard Classification: Insulation materials, including integral facing covers, shall meet the following ratings when tested in accordance with ASTM E-84 (tunnel test):
 - 1. Fuel contributed: 50.
 - 2. Maximum installed flame spread: 25.
 - 3. Maximum smoke developed: 450 (50 for insulation left exposed).
 - 4. Self-extinguishing.
- C. No asbestos based materials.

PART 2 - PRODUCTS

2.01 GLASS-FIBER BLANKET INSULATION

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. CertainTeed Corporation.
 - 2. Guardian Building Products, Inc.
 - 3. Johns Manville.
 - 4. Knauf Insulation.
 - 5. Owens Corning.
- B. Unfaced, Glass-Fiber Blanket Insulation: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.

2.02 SPRAY POLYURETHANE FOAM INSULATION

- A. Closed-Cell Polyurethane Foam Insulation: ASTM C 1029, Type II, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Corporation.
 - b. BaySystems NorthAmerica, LLC.
 - c. Dow Chemical Company (The).

- d. ERSystems, Inc.
- e. Gaco Western Inc.
- f. Henry Company.
- g. NCFI; Division of Barnhardt Mfg. Co.
- h. SWD Urethane Company.
- i. Volatile Free, Inc.
- 2. Minimum density of 1.5 lb/cu. ft., thermal resistivity of 6.2 deg F x h x sq. ft./Btu x in. at 75 deg F.

2.03 VAPOR BARRIERS

- A. See Section 07 25 00 WEATHER BARRIERS.

2.04 AUXILIARY INSULATING MATERIALS

- A. Vapor-Barrier Tape: Pressure-sensitive tape of type recommended by insulation manufacturers for sealing joints and penetrations in vapor-barrier facings.
- B. Adhesive for Bonding Insulation: Product with demonstrated capability to bond insulation securely to substrates indicated without damaging insulation and substrates.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for Sections in which substrates and related work are specified and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean substrates of substances that are harmful to insulation or vapor barriers, including removing projections capable of puncturing vapor barriers, or that interfere with insulation attachment.

3.03 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.
- E. Water-Piping Coordination: If water piping is located within insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.
- F. For preformed insulating units, provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.04 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- B. Sill Sealer: Provide between bottom track and floor of GWB and structural stud walls.
- C. Set vapor-barrier-faced units with vapor barrier to warm side of construction, unless otherwise indicated. Do not obstruct ventilation spaces, except for firestopping.
 - 1. Tape joints and ruptures in vapor barrier, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.

- D. Glass-Fiber Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 - 4. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
- F. Spray-Applied Insulation: Apply spray-applied insulation according to manufacturer's written instructions. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and windows, electrical boxes, and other items not indicated to receive insulation are masked. After insulation is applied, make flush with face of studs by using method recommended by insulation manufacturer.
- G. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
 - 1. Loose-Fill Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft.
 - 2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

3.05 INSTALLATION OF VAPOR BARRIERS

- A. General: Extend vapor barrier to extremities of areas to be protected from vapor transmission. Secure in place with adhesives or other anchorage system as indicated. Extend vapor barrier to cover miscellaneous voids in insulated substrates, including those filled with loose-fiber insulation.
- B. Seal vertical joints in vapor barriers over framing by lapping not less than two wall studs. Fasten vapor barriers to wood framing at top, end, and bottom edges; at perimeter of wall openings; and at lap joints. Space fasteners 16 inches o.c.
- C. Before installing vapor barrier, apply urethane sealant to faces of wood framing including top and bottom plates, studs, and framing around door and window openings. Seal overlapping joints in vapor barriers with vapor- barrier tape according to vapor- barrier manufacturer's written instructions. Seal butt joints with vapor- barrier tape. Locate all joints over framing members or other solid substrates.
- D. Firmly attach vapor barriers to framing and solid substrates with vapor- barrier fasteners as recommended by vapor- barrier manufacturer.
- E. Seal joints caused by pipes, conduits, electrical boxes, and similar items penetrating vapor barriers with vapor- barrier tape to create an airtight seal between penetrating objects and vapor barrier.
- F. Repair tears or punctures in vapor barriers immediately before concealment by other work. Cover with vapor- barrier tape or another layer of vapor barrier.

3.06 PROTECTION

- A. Protect installed insulation and vapor barriers from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 07 21 00

SECTION 07 25 00

WEATHER BARRIERS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Sheet membrane vapor barrier.
- B. Air Infiltration Barrier/ Building Wrap.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Vapor Barrier:
 - 1. Exterior wall applications: polyethylene film reinforced with glass fiber square mesh, 6 mil thick.
- B. Vapor Barrier Tape: Permeance less than 0.3 perms per ASTM F 1249 or ASTM E 96.
- C. Air Infiltration Barrier (Building Wrap): Air-Barrier sheeting made from polyolefins; cross-laminated films, woven strands, or spun-bonded fibers; coated or uncoated; with or without perforations; and complying with ASTM E 1677, Type I.
 - 1. Basis of Design: Tyvek "CommercialWrap", as manufactured by DuPont.
 - 2. Manufacturers:
 - a. DuPont (E. I. du Pont de Nemours and Company).
 - b. Celotex Corporation (The); Building Products Division.
 - c. Raven Industries, Inc.
 - d. Tenneco Building Products.
 - 3. Permeance: Not less than 20 perms.
 - 4. Flame-Spread Index: ASTM E 84, Class A.
 - 5. Allowable Exposure Time: Not less than three months.
- D. Building Wrap Tape: Pressure-sensitive plastic tape recommended by building wrap manufacturer for sealing joints and penetrations in building wrap.
- E. Building Paper: 15 lb building paper where indicated on Drawings.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify condition of substrate and adjacent materials.
- B. Verify that surfaces and conditions are ready to accept the Work.

3.02 PREPARATION

- A. Remove loose or foreign matter that might impair adhesion.

3.03 INSTALLATION

- A. Install vapor barrier on interior face of exterior studs and as indicated on Drawings. Comply with ASTM C755 and written directions of vapor barrier manufacturer.
- B. Seal joints by lapping and bonding with adhesive or vapor barrier tape to maintain integrity of vapor barrier.
- C. Extend coverage to extremities of areas to receive vapor barrier. Seal punctures, tears and penetrations through vapor barrier with vapor barrier tape or strips of vapor barrier material adhesively applied.
- D. Air Infiltration Barrier/ Building Wrap Application: Cover wall sheathing with building wrap as indicated. Cover upstanding flashing with 4-inch overlap. Seal seams, edges, and penetrations with tape.
- E. Where Building Paper is indicated, apply building paper horizontally with 2-inch overlap and 12-inch end lap; fasten to sheathing with galvanized staples or roofing nails. Cover upstanding flashing with 4-inch overlap.

END OF SECTION 07 25 00

SECTION 07 46 46

FIBER CEMENT SIDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Fiber cement lap siding, panels, shingle, trim, fascia, molding and accessories; James Hardie HZ5 Engineered for Climate Siding.

1.3 RELATED SECTIONS

- A. Section 061000 - Rough Carpentry.
- B. Section 072100 - Insulation: Exterior wall insulation.

1.4 REFERENCES

- A. ASTM C1186 - Standard Specification for Flat Fiber-Cement Sheets

1.5 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Provide detailed drawings of atypical non-standard applications of cementitious siding materials which are outside the scope of the standard details and specifications provided by the manufacturer.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum of 2 years' experience with installation of similar products.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store siding on edge or lay flat on a smooth level surface. Protect edges and corners from chipping. Store sheets under cover and keep dry prior to installing.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Product Warranty: Limited, non-pro-rated product warranty.
 - 1. HardiePanel HZ5 vertical siding for 30 years.
 - 2. HardieTrim Batten Boards HZ5 boards for 30 years.
- B. Product Warranty: Limited, product warranty.
 - 1. HardieTrim HZ5 boards for 15 years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: James Hardie Building Products, Inc., which is located at:
26300 La Alameda Suite 400 ; Mission Viejo, CA 92691; Toll Free Tel: 866-274-3464;
Tel: 949-367-4980; Fax: 949-367- 4981; Email: [request info \(info@jameshardie.com\)](mailto:info@jameshardie.com);
Web: www.jameshardie.com
- B. Requests for approval of equal substitutions will be considered in accordance with provisions of Section 016000.

2.2 SIDING AND TRIM

- A. HardiePanel Vertical Siding HZ5 siding - complies with ASTM C 1186 Type A Grade II.
 - 1. Type: Smooth panel 4 feet by 8 feet OR 4 feet by 10 as needed.
 - 2. Finish: Primed for paint.
- B. HardieTrim HZ5 Boards.
 - 1. Type: Smooth, 5/4 boards, by width indicated on drawings.
 - 2. Finish: Primed for paint.
- C. HardieTrim Batten Boards HZ5.
 - 1. Type: Smooth, 2.5" wide by 0.75" thick.
 - 2. Finish: Primed for paint.

2.3 FASTENERS

- A. Wood Framing Fasteners:
 - 1. Wood Framing: 0.093 inch shank by 0.222 inch head corrosion resistant siding nails. Length to extend through siding and sheathing materials to properly imbed into stud framing as required by manufacturers installation instructions.

2.4 FINISHES

- A. Factory Primer: Provide factory applied universal primer.
 - 1. Primer: Factory primed by James Hardie.
 - 2. Topcoat: Refer to Section 099113 and Exterior Finish Schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If framing preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION - HARDIEPANEL HZ5 VERTICAL SIDING AND HARDIETRIM BATTEN BOARDS Z5 BOARDS

- A. Install materials in strict accordance with manufacturer's installation instructions.
- B. Allow minimum vertical clearance between the edge of siding and any other material in strict accordance with the manufacturer's installation instructions.
- C. Align vertical joints of the planks over framing members.
- D. Maintain clearance between siding and adjacent finished grade.
- E. Locate splices at least one stud cavity away from window and door openings.

3.4 INSTALLATION – HARDIETRIM HZ5 BOARDS

- A. Install materials in strict accordance with manufacturer's installation instructions. Install flashing around all wall openings.
- B. Fasten through trim into structural framing or code complying sheathing. Fasteners must penetrate minimum 3/4 inch (19 mm) or full thickness of sheathing. Additional fasteners may be required to ensure adequate security.
- C. Place fasteners no closer than 3/4 inch (19 mm) and no further than 2 inches (51 mm) from side edge of trim board and no closer than 1 inch (25 mm) from end. Fasten maximum 16 inches (406 mm) on center.
- D. Maintain clearance between trim and adjacent finished grade.
- E. Trim inside corner with a single board trim both side of corner.
- F. Outside Corner Board Attach Trim on both sides of corner with 16 gage corrosion resistant finish nail 1/2 inch (13 mm) from edge spaced 16 inches (406 mm) apart, weather cut each end spaced minimum 12 inches (305 mm) apart.
- G. Allow 1/8 inch gap between trim and siding.
- H. Seal gap with high quality, paint-able caulk.

3.5 FINISHING

- A. Finish factory primed siding with a minimum of one coat of high quality 100 percent acrylic or latex or oil based exterior grade paint within 180 days of installation. Follow paint manufacturer's written product recommendation and written application instructions.

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 07 46 46

SECTION 07 54 23

THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Mechanically fastened thermoplastic polyolefin (TPO) roofing system.
- B. Related Requirements:
 - 1. Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.
 - 2. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:
 - 1. Base flashings and membrane terminations.
 - 2. Roof plan showing slopes.
- C. Samples for Verification: For the following products:
 - 1. Sheet roofing, of color required.

1.5 INFORMATIONAL SUBMITTALS

- A. Coordinate "Qualification Data" Paragraph below with qualification requirements in Section 014000 "Quality Requirements" and as may be supplemented in "Quality Assurance" Article.
- B. Qualification Data: For Installer and manufacturer.
- C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - 1. Submit evidence of compliance with performance requirements.
- D. Sample Warranties: For manufacturer's special warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.9 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes roofing, base flashings, fasteners, cover boards, roofing accessories, and other components of roofing system.
 - 2. Verify available roofing system warranties and warranty periods with manufacturers.
 - 3. Warranty Period: 15 years from date of Substantial Completion.
- B. Usually delete "Special Project Warranty" Paragraph below if retaining "Special Warranty" Paragraph above. Manufacturer's labor-and-materials warranty typically binds Installer for the first two or three years. If retaining below, use or revise sample roofing Installer's warranty form at end of this Section. Alternatively, insert copy of local roofing contractor association's warranty form, or use another form as advised by Owner's counsel. Revise paragraph to reflect scope of special Project warranty.
- C. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as roofing, base flashing, fasteners, cover boards, for the following warranty period:
 - 1. Verify available warranties and warranty periods.
 - 2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Versico Roofing Systems; VersiWeld
- B. Tremco Roofing; TremPly TPO
- C. GAF; EverGuard TPO
- D. Source Limitations: Obtain components including fasteners and accessories for roofing system from same manufacturer as membrane roofing.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
 - 1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as

- demonstrated by roofing manufacturer based on testing and field experience.
- C. Wind Uplift Performance:
 - 1. Roof system designed to withstand wind uplift forces as calculated using the current revision of ASCE- 7.
 - 2. Roof system designed in accordance to an FM 1-90 wind uplift rating. Building Owner is not Factory Mutual insured.
 - D. Drainage: Provide a roof system with positive drainage where all standing water dissipates within 48 hours after inclement weather and precipitation.

2.3 TPO ROOFING

- A. Fabric-Reinforced TPO Sheet: ASTM D 6878, internally fabric-reinforced, uniform, flexible TPO sheet.
 - 1. Thickness: 60 mils (1.5 mm) nominal.
 - 2. Retain one color in "Exposed Face Color" Subparagraph below.
 - 3. Exposed Face Color: Light gray, or as selected from manufacturer's standard colors.

2.4 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
- B. Sheet Flashing: Manufacturer's standard unreinforced TPO sheet flashing, 55 mils (1.4 mm) thick, minimum, of same color as TPO sheet.
- C. Before retaining option in "Bonding Adhesive" Paragraph below, verify that roofing manufacturers offer a water-based adhesive. Coordinate with selection in "Bonding Adhesive" Paragraph in "Adhered Roofing Installation" Article.
- D. Bonding Adhesive: Manufacturer's standard.
- E. Retain "Slip Sheet" Paragraph below if slip sheets are required. See roofing system manufacturer's specifications for requirements.
- F. Slip Sheet: Manufacturer's standard, of thickness required for application.
- G. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- H. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick (25 mm wide by 1.3 mm thick), prepunched.
- I. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing to substrate, and acceptable to roofing system manufacturer.
- J. Miscellaneous Accessories: Preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.
- K. Pitch pans (sealant pockets) are not allowed.

2.5 COVER BOARD

- A. General: Roof accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Retain "Fasteners" Paragraph below if insulation requires mechanical fastening. Retain option if separate cover boards require fastening.
- C. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening cover boards to substrate, and acceptable to roofing system manufacturer.
- D. Cover Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/4 inch thick
 - 1. GP DensDeck Roof Board.
- E. Protection mats in "Protection Mat" Paragraph below may be placed on roofing as

- protection from roof pavers or crushed-aggregate ballast.
- F. Protection Mat: Woven or nonwoven polypropylene, polyolefin, or polyester fabric, water permeable and resistant to UV degradation, type and weight as recommended by roofing system manufacturer for application.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Retain paragraph below if acoustical roof deck rib insulation, shaped to fit into topside ribs of acoustical roof deck, is installed in this Section.
- D. Install insulation strips according to acoustical roof deck manufacturer's written instructions.

3.3 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions.
- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.
- C. Retain paragraph below if tie-ins to existing roofing are required.
- D. Install roofing and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition.

3.4 COVER BOARD INSTALLATION

- A. Retain first paragraph below if cover boards will be field installed over roof insulation and immediately below roofing. Usually retain option unless cover board can be loosely laid.
- B. Install cover boards with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together and fasten to roof deck.
1. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.
- C. Install slip sheet over cover board and immediately beneath roofing.

3.5 FASTENED ROOFING INSTALLATION

- A. Mechanically fasten roofing over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing and allow to relax before retaining.
1. Retain first subparagraph below for installations where steel roof deck is the structural substrate and wide roofing sheets may be used. Consider limiting roofing sheet width after reviewing manufacturers' criteria used to establish fastener patterns. See the Evaluations.

2. For in-splice attachment, install roofing with long dimension perpendicular to steel roof deck flutes.
- B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- C. Accurately align roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Mechanically fasten or adhere roofing securely at terminations, penetrations, and perimeter of roofing.
- E. Apply roofing with side laps shingled with slope of roof deck where possible.
- F. Coordinate installation method with manufacturer and revise if required. "In-Seam Attachment" Paragraph below follows SPRI classification for concealed fastenings within seams of a sheet.
- G. In-Seam Attachment: Secure one edge of TPO sheet using fastening plates or metal battens centered within seam, and mechanically fasten TPO sheet to roof deck.
- H. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.
 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.
 2. Revise number of seam tests in first subparagraph below to suit Project.
 3. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 4. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.
- I. Spread sealant bed over deck-drain flange at roof drains, and securely seal roofing in place with clamping ring.

3.6 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings, reglet into masonry joints or mechanically anchor to substrate through termination bars where joints are not present.

3.7 FIELD QUALITY CONTROL

- A. Retain "Testing Agency" Paragraph below to identify who shall perform tests and inspections. If retaining second option in "Testing Agency" Paragraph, retain "Field quality-control reports" Paragraph in "Informational Submittals" Article.
- B. A roof inspection is required by manufacturer before warranty issue. Revise scope of inspection and source of report to a qualified roofing consultant or an independent testing agency if preferred.
- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- D. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.8 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period.
When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Retain paragraph below if using fluid-applied bonding materials.
- D. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 54 23

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes sheet metal flashing and trim in the following categories:
 - 1. Roof-drainage systems.
 - 2. Copings, exposed trim and flashing.
 - 3. Manufactured through-wall flashing with counterflashing.
 - 4. Formed low-slope roof sheet metal fabrications.
 - 5. Formed wall sheet metal fabrications.
- B. Refer to Section 07 71 00 for Gutters and Downspouts.

1.03 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking and fastener disengagement.
- B. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

1.04 SUBMITTALS

- A. Product Data including manufacturer's material and finish data, installation instructions, and general recommendations for each specified flashing material and fabricated product.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.
 - 3. Include identification of material, thickness, weight, and finish for each item and location in Project.
 - 4. Include details for forming, including profiles, shapes, seams, and dimensions.
 - 5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
 - 6. Include details of termination points and assemblies.
 - 7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
 - 8. Include details of roof-penetration flashing.
 - 9. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counter flashings as applicable.
 - 10. Include details of special conditions.
 - 11. Include details of connections to adjoining work.
 - 12. Detail formed flashing and trim at scale of not less than 1-1/2 inches per 12 inches (1:10).
- C. Warranty: Manufacturer's standard 5 year warranty.
- D. Finish Warranty: 20 years after substantial completion.

1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
- B. Installer Qualifications: Engage an experience Installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

1.06 PROJECT CONDITIONS

- A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.02 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with not less than the strength and durability of alloy and temper designated below:
 - 1. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness of 0.040 inch, unless otherwise indicated.
 - 2. Extruded Aluminum: ASTM B 221, alloy 6063-T52, with a minimum thickness of 0.080 inch for primary legs of extrusions that are anodized, unless otherwise indicated.
- C. Galvanized Steel Sheet: ASTM A 526, G 90, commercial quality, or ASTM A 527, G 90, lock-forming quality, hot-dip galvanized steel sheet with 0.20 percent copper, mill phosphatized where indicated for painting; not less than 0.0396 inch thick, unless otherwise indicated.
- D. Zinc-Coated Steel: Commercial quality with 0.20 percent copper, ASTM A525 except ASTM A 527 for lock-forming, G90 hot-dip galvanized, mill phosphatized where indicated for painting; 0.0359-inch thick (20 gage) except as otherwise indicated.
- E. Stainless Steel: AISI Type 302/304, complying with ASTM A 167, 2D annealed finish, soft, except where harder temper required for forming or performance; 0.0156-inch thick (28 gage) except as otherwise indicated.
- F. Factory Finished (Prepainted Galvanized) Sheet Metal:
 - 1. Ryerson/Intergris Metals "Colorklad".
 - 2. Peterson Aluminum "Pac-Clad".
 - 3. Firestone Metal Products "Unaclad".
 - 4. Or approved equals.

2.03 UNDERLAYMENT MATERIALS

- A. Felts: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, non-perforated.
- B. Self-Adhering, High-Temperature Sheet: Minimum 30 mils thick, consisting of a slip resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. Carlisle Residential, a division of Carlisle Construction Materials; WIP 300HT.
 - b. Grace Construction Products, a unit of W. R. Grace & Co.-Conn.; Grace Ice and Water Shield HT.
 - c. Henry Company; Blueskin PE200 HT.
 - d. Kirsch Building Products, LLC; Sharkskin Ultra SA.
 - e. Metal-Fab Manufacturing, LLC; MetShield.
 - f. Owens Corning; WeatherLock Specialty Tile & Metal Underlayment.
 - g. Polyguard Products, Inc.; Deck Guard HT.
 - h. Protecto Wrap Company; Protecto Jiffy Seal Ice & Water Guard HT.
 - i. SDP Advanced Polymer Products Inc.; Palisade SA-HT.
 - 2. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F or higher.
 - 3. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F or lower.
- C. Slip Sheet: Rosin-sized paper, minimum 3 lb/100 sq. ft.
- 2.04 MISCELLANEOUS MATERIALS AND ACCESSORIES**
- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
 - B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
 - d. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
 - e. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 - f. Fasteners for Zinc-Coated (Galvanized), Aluminum-Zinc Alloy-Coated Steel Sheet:
 - 1) Hot-dip galvanized steel according to ASTM A 153 or ASTM F 2329 or Series 300 stainless steel.
 - C. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, non-staining tape 1/2 inch wide and 1/8 inch thick
 - D. Elastomeric Sealant: Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
 - E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
 - F. Epoxy Seam Sealer: Two-part, non-corrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
 - G. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type non-corrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
 - H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.05 MANUFACTURED SHEET METAL AND TRIM

- A. Reglets: Units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and –welded corners, and junctions with interlocking counterflashing on an exterior face, of same metal as reglet.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cheney Flashing Company
 - b. Fry Reglet Corporation
 - c. Heckmann Building Products, Inc.
 - d. Hickman, W.P. Company
 - e. Hohmann & Barnard, Inc., STF Sawtooth Flashing
 - f. Keystone Flashing Company, Inc.
 - g. National Sheet Metal Systems, Inc.
 - h. Sandell Manufacturing Co., Inc.
 - 2. Material: Aluminum, 0.032" thick.
 - 3. Surface-Mounted Type: Provide channel for sealant at top edge.
 - 4. If surface mount reglet flashings are shop fabricated provide shop drawings and construct of like material.
 - 5. Accessories:
 - a. Flexible-Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where Drawings show reglet without metal counterflashing.
 - b. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing lower edge.
 - 6. Finish: Per drawings.

2.06 FABRICATION, GENERAL

- A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.
- B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 - 1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 - 2. Obtain field measurements for accurate fit before shop fabrication.
 - 3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 - 4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- C. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- D. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- E. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
 - 1. Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

- F. Form pieces in longest possible lengths.
- G. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
- H. Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
- I. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.
- J. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.
 - 1. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.
- K. Seal metal joints.
- L. Finish: Per drawings
- M. Do not use graphite pencils to mark metal surfaces.

2.07 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Copings: Fabricate in minimum 96-inch long, but not exceeding 12-foot long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
 - 1. Coping Profile: Fig 3-4A according to SMACNA's "Architectural Sheet Metal Manual."
 - 2. Joint Style: Butted with expansion space and 6-inch wide, concealed backup plate.
 - 3. Fabricate from the Following Materials:
 - a. Aluminum: 0.040 inch thick.
 - b. Galvanized Steel: 0.040 inch thick.
- B. Roof-to-Wall Transition, Roof to Edge Flashing Transition, Roof to Roof Edge Flashing and Fascia Cap Transition and Expansion Joint Cover: Expansion-Joint Cover: Fabricate from the following materials: Shop fabricate interior and exterior corners.
 - 1. Aluminum: 0.040 inch thick.
 - 2. Galvanized Steel: 0.034 inch thick.
- C. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
 - 1. Galvanized Steel: 0.022 inch thick.
 - 2. Aluminum: 0.0250 inch thick.
- D. Flashing Receivers: Fabricate from the following materials:
 - 1. Galvanized Steel: 0.022 inch thick.
- E. Roof-Penetration Flashing: Fabricate from the following materials:
 - 1. Galvanized Steel: 0.028 inch thick.
 - 2. Stainless Steel: 0.019 inch thick.
- F. Roof-Drain Flashing: Fabricate from the following materials:
 - 1. Zinc-Tin Alloy-Coated Stainless Steel: 0.015 inch thick.

2.08 WALL SHEET METAL FABRICATIONS

- A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch long, but not exceeding 12-foot long, sections, under copings, and at shelf angles. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings; and form with 2-inch high, end dams. Fabricate from the following materials:
 - 1. Stainless Steel: 0.016 inch thick.
- B. Opening Flashings in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch high, end dams. Fabricate from the following materials:
 - 1. Galvanized Steel: 0.022 inch thick.

2. Aluminum: 0.032 inch thick.
- C. Wall Expansion-Joint Cover: Fabricate from the following materials:
 1. Galvanized Steel: 0.028 inch thick.

2.09 FINISHES

- A. High-Performance Organic Coating Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's written instructions.
 1. Fluoropolymer 3-Coat Coating System: Manufacturer's standard 3-coat, thermocured system composed of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 1402, Test Method No. 7.
- B. Color: Selection by Architect from manufacturer's standards; non-metallic.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.
 1. Verify compliance with requirements for installation tolerances of substrates.
 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 UNDERLAYMENT INSTALLATION

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.
- B. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller. Cover underlayment within 14 days.
- C. Apply slip sheet, wrinkle free, over underlayment before installing sheet metal flashing and trim.

3.03 INSTALLATION

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
 5. Torch cutting of sheet metal flashing and trim is not permitted.
 6. Do not use graphite pencils to mark metal surfaces.

- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
 - 2. Prepare joints and apply sealants to comply with requirements in Section 07 92 00 "Joint Sealants."
- G. Rivets: Rivet joints where necessary for strength.

3.04 ROOF-DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Downspouts: Join sections with 1-1/2-inch telescoping joints.
 - 1. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches o.c.
 - 2. Provide elbows at base of downspout to direct water away from building.
 - 3. Connect downspouts to underground drainage system.
- C. Conductor Heads: Anchor securely to wall, with elevation of conductor head rim at minimum of 1 inch below scupper or gutter discharge.
- D. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints minimum of 4 inches in direction of water flow.

3.05 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch centers.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.
 - 1. Interlock exterior bottom edge of coping with continuous cleat anchored to

- substrate at 24-inch centers.
 - 2. Anchor interior leg of coping with washers and screw fasteners through slotted holes at 24-inch centers.
 - D. Copings: Anchor to resist uplift and outward forces according to recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for specified FM Approvals' listing for required windstorm classification.
 - E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of 4 inches. Secure in waterproof manner by means of snap-in installation and sealant or lead wedges and sealant unless otherwise indicated.
- 3.06 WALL FLASHING INSTALLATION**
- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
 - B. Through-Wall Flashing: Installation of through-wall flashing is specified in Section 04 20 00 "Unit Masonry."
 - C. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings.
- 3.07 ERECTION TOLERANCES**
- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- 3.08 CLEANING AND PROTECTION**
- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
 - B. Clean and neutralize flux materials. Clean off excess solder.
 - C. Clean off excess sealants.
 - D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.
 - E. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.
 - F. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 62 00

SECTION 07 65 00

FLEXIBLE FLASHING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Provide factory fabricated elastomeric waterproof tie in joint, to connect two incompatible roof systems as indicated on the architect's drawings. All items in this section shall be furnished by, and be the responsibility of, the roofing/waterproofing contractor.
 - 1. BUR/EPDM Tie in Detail
 - 2. Asphaltic Membrane/Thermoplastic Membrane Tie in Detail
- B. Roofing/Waterproofing System Description
 - 1. Built-Up-Roofing System: Four ply hot asphalt applied membrane system
 - 2. EPDM Single Ply Roofing membrane
 - 3. Built-Up-Roofing System: Four ply hot asphalt applied membrane system and a thermoplastic (PVC type) Single Ply membrane.
 - 4. Modified Bitumen System: Mopped/torched membrane system and a thermoplastic (PVC type) Single Ply membrane.
 - 5. Cold Applied Adhesive System: Multiple ply cold applied membrane system and a thermoplastic (PVC type) Single Ply membrane.
 - 6. Coal Tar Pitch System: Multiple ply Coal Tar Pitch membrane system and a thermoplastic (PVC type) Single Ply membrane.

1.02 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry, Wood Decking, Wood Curbs, Cants and Nailers.
- B. Section 07 25 00 - Weather Barriers
- C. Section 07 62 00 - Sheet Metal Flashing and Trim.
- D. Section 07 71 00 - Roof Specialties.

1.03 REFERENCES

- A. Bituminous Materials
 - 1. ASTM D 312, Asphalt Used in Bitumen Type [III]
 - 2. ASTM D 41, Asphalt Primer Used in Roofing, Damp proofing and Waterproofing.
 - 3. ASTM D 4586 Type [II], Asphalt Roof Cement, Asbestos Free.
- B. EPDM Materials
 - 1. ASTM D 4637, EPDM Roof Membranes

1.04 SUBMITTALS

- A. Submit product data under the applicable provisions of Section 01 33 00 – Submittal Procedures.
- B. Submit manufacturer's installation instructions, product literature and specifications.
- C. Submit tie in joint manufacturer drawings indicating location of tie in and configuration.

1.05 QUALITY ASSURANCE

- A. Applicator Specializing in Roofing and/or Waterproofing.
- B. Independent Inspector as appointed by Owner.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site under provisions of Section 01 60 00.
- B. Store and protect products under provisions of Section 01 60 00.
- C. Store products in accordance with manufacturer's instructions in weather protected environment, clear of ground and moisture.
- D. Keep the RedLINE Tie-in material dry and free of debris.

1.07 WARRANTY

- A. As per manufacturer's warranty.

PART 2 - PRODUCTS

2.01 DESCRIPTION

- A. RedLINE Tie-in joint is a flat, zero profile, tie-in joint waterproofing system that is to be used to join two incompatible roof membrane systems e.g. BUR/EPDM, BUR/PVC, Modified Bitumen/EPDM, etc. The RedLINE joint waterproofing system is installed in a

matter of minutes, and incorporates the site specific prefabricated details. The flat profile of the tie in does not obstruct the flow of water. The RedLINE material is joined by vulcanization. Specific shapes are manufactured and joined together to form a monolithic waterproof tie in joint material.

2.02 MATERIAL CHARACTERISTICS

- A. RedLINE material is an extruded elastomer with polyester fleece embedded on one side, (top and bottom surfaces) and a pre-attached EPDM tape on the other. It is resistant to the effects of UV, ozone, high temperatures, and chemicals such as; alkalis, acids, saline solutions, alcohol and ketones. The high quality and purity of the elastomer makes vulcanization of the tie-in joint pieces possible. Vulcanization allows the construction of details around unique shapes without the use of glue, caulking or tape.

2.03 MATERIAL

- A. Appearance
 - 1. Color: Orange-red with white fleece edging on one salvage edge, and a self-adhesive EPDM tape factory applied to the other salvage edge.
- B. Material Chemistry
 - 1. RedLINE base material an elastomer with a saturated polymethylene chain.
 - 2. Polyester fleece: 0.60 oz/ft².
- C. RedLINE Tie-in joint waterproofing material, complies with the following minimum physical performance specifications:
 - 1. Hardness Durometer A to ASTM D 2240: 45 ± 5
 - 2. Elongation at break to ASTM D 412: 500 %
 - 3. Low temperature flex to ASTM D 746: -70 °F
 - 4. Tear resistance to ASTM D 624 (Die C): 220 lbf/in [38.8 N/mm] min.
 - 5. Resistance to heat aging, 7 days @ 250 °F, change in hardness: 10% max.
 - 6. Resistance to heat aging, 7 days @ 250 °F, change in tensile strength: 10% max.
 - 7. Resistance to heat aging, 7 days @ 250 °F, change in elongation: 10% max.
 - 8. Resistance to oil aging, change in volume after 72 hours, immersion in ASTM Oil #3 @ 212 °F: +100 % max.
 - 9. Resistance to ozone, to ASTM D 1149: No cracks.
 - 10. Change in weight to ASTM D 471: less than 2 %
 - 11. Seam tensile strength to ASTM D 816: Same as base material.
 - 12. Water vapor permeability to ASTM E 96 Method B: less than 2.0 perms max.
 - 13. Puncture test - cone to CGSB 37.56 M (1995): 10 lbs. minimum.
 - 14. Embedment of fleece covered flaps in Type II or III asphalt according to CGSB 37.56 M (1995): 23 lbs/in min.
 - 15. 2000 hours exposure to UV to ASTM G 53: No cracks or crazing.
- D. RedLINE Tie-in joint waterproofing system is supplied by SITURA INC., 1-888-4-SITURA (1-888-474-8872).
 - 1. RedLINE Tie-in
 - a. Geometry:
 - b. Thickness: 118 mil
 - c. Width: 16"
 - d. Tape Lap Dimension: 4"

2.04 ADHESIVE MATERIAL

- A. Use a self-curing structural adhesive as approved by Roof Tie-in manufacturer.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Prior to the commencement of the RedLINE Tie-in joint installation, verify that all items affecting work of this section are in place and positioned correctly.
- B. Verify that the supplied RedLINE Tie-in joint system corresponds to the tie-in joint layout.
- C. Commencement of installation constitutes acceptance of existing conditions and of the custom supplied RedLINE material.

3.02 PREPARATION

- A. Examination
 - 1. Verify that surfaces and site conditions are ready to receive the installation of the RedLINE Tie-in joint waterproofing system.
 - 2. Verify that all prepared surfaces are ready to receive the RedLINE Tie-in are clean and smooth, free of depressions, irregularities, or projections.
 - 3. Start of work means installer accepts existing surfaces and substrate.
- 3.03 INSTALLATION - GENERAL**
 - A. Install components in accordance with manufacturer's installation instructions and conventional roofing/waterproofing practices.
 - B. Coordinate the installation of components of this section with the installation of the waterproofing membrane.
 - C. Coordinate the completion of flashing in and stripping the RedLINE Tie-in joint material as work progresses with the work of this section to ensure water tightness.
 - D. The uninstalled RedLINE Tie-in joint material must be kept dry and clean at all times.
- 3.04 RedLINE TIE-IN JOINT EPDM ROOF SIDE INSTALLATION**
 - A. Identify the location of the tie-in detail. Roll out the RedLINE Tie-in and allow it to relax prior to application. Make sure that the substrate is clean and free of debris. Align the side of the RedLINE with the tape component over the installed EPDM roof membrane, in such a manner that the entire tape width is over the EPDM roof membrane, (either on top or the bottom)
 - B. Fold back the RedLINE Tie-in on itself and prepare the EPDM membrane in accordance to the EPDM membrane manufacturer's requirements. Once the EPDM roof membrane has been cleaned, primed and allowed to dry, carefully peel off the separation paper off the adhesive tape on the RedLINE. Fold the taped end onto the surface of the EPDM membrane and apply pressure by hand, this action must be followed by applying pressure using a metal roller. This action ensures the proper adhesion of the tape to the EPDM roof membrane. Once the RedLINE Tie-in has been taped to the EPDM roof, install the fleece end to the adjacent roof, as if installing a regular RedLINE expansion joint.
- 3.05 RedLINE TIE-IN THERMOPLASTIC ROOF SIDE INSTALLATION**
 - A. Identify the location of the tie-in detail. Roll out the RedLINE Tie-in and allow it to relax prior to application. Make sure that the substrate is clean and free of debris. Align the side of the RedLINE with the selvage edge over the installed thermoplastic roof membrane, in such a manner that the entire selvage edge width is over the thermoplastic roof membrane, (either on top or the bottom)
 - B. Fold back the RedLINE Tie-in on itself and prepare the thermoplastic membrane in accordance to the thermoplastic membrane manufacturer's requirements. Once the thermoplastic roof membrane has been cleaned, primed and allowed to dry, carefully apply the structural grade adhesive on the thermoplastic membrane. Carefully fold the RedLINE Tie-in selvage edge onto the surface of the thermoplastic membrane and apply pressure by hand, this action must be followed by applying pressure using a metal roller. This action ensures the proper adhesion of the tie-in to the thermoplastic roof membrane. Once the RedLINE Tie-in has been adhered to the thermoplastic roof, install the fleece end to the adjacent roof, as if installing a regular RedLINE expansion joint.
 - C. Additionally a termination bar maybe used to further secure the RedLINE Tie-in to the substrate. The fastening bar must be secured with flat head fasteners and subsequently flashed in with a compatible thermoplastic membrane stripping ply.
- 3.06 RedLINE TIE-IN JOINT BUR ROOF SIDE INSTALLATION**
 - A. Mop the base ply surface with hot asphalt/bitumen. Apply the asphalt/bitumen at a nominal uniform rate of 0.23 lbs/ft². Install each RedLINE Tie-in edging polyester fleece so that it shall be firmly and uniformly set, without voids, into the hot asphalt (within 25 °F of the EVT rating indicated on bitumen container label.) At all times observe the bitumen/asphalt manufacturer's recommendations. The RedLINE fleece must be completely encapsulated in the hot asphalt/bitumen.

- B. Apply the stripping plies smooth, free from air pockets, wrinkles, fish mouths, or tears. Coat the top surface of the RedLINE fleece with hot asphalt/bitumen. Apply the asphalt/bitumen at a nominal uniform rate of 0.23 lbs/ft². Install each stripping ply, shingle lap fashion, onto the RedLINE edged polyester fleece firmly and uniformly, without voids, into the hot asphalt (within 25 °F of the EVT rating indicated on bitumen container label.) The RedLINE fleece must be completely encapsulated in the hot asphalt/bitumen.
- C. Additional protection to the RedLINE Tie-in joint is optional but can be provided by attaching a modified bitumen sheet to the BUR roof side over the RedLINE Tie-in joint. This is achieved by either mopping or torching the modified bitumen sheet to the already installed BUR stripping ply(s).

3.07 RedLINE TIE-IN ASPHALTIC ROOF SIDE INSTALLATION

- A. Mop the base ply surface with hot asphalt/bitumen. Install each RedLINE Tie-in edging polyester fleece so that it shall be firmly and uniformly set, without voids, into the hot asphalt (within 25 °F of the EVT rating indicated on bitumen container label.) At all times observe the bitumen/asphalt manufacturer's recommendations. The RedLINE fleece must be completely encapsulated in the hot asphalt/bitumen.
- B. Apply the stripping plies smooth, free from air pockets, wrinkles, fish mouths, or tears. Coat the top surface of the RedLINE fleece with hot asphalt/bitumen. Install each stripping ply, shingle lap fashion, onto the RedLINE edged polyester fleece firmly and uniformly, without voids, into the hot asphalt (within 25 °F [14 °C] of the EVT rating indicated on bitumen container label.) The RedLINE fleece must be completely encapsulated in the hot asphalt/ bitumen/coal tar pitch.
- C. Additional protection to the RedLINE Tie-in joint is optional but can be provided by attaching a modified bitumen sheet to the BUR roof side over the RedLINE Tie-in joint. This is achieved by either mopping or torching the modified bitumen sheet to the already installed stripping plies on the asphaltic roof side only.

3.08 FIELD QUALITY CONTROL

- A. Correct identified defects or irregularities.

END OF SECTION 07 65 00

SECTION 07 92 00

JOINT SEALANTS

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes sealants for the following applications, including those specified by reference to this Section:
 - 1. Exterior joints in the following vertical surfaces and nontraffic horizontal surfaces:
 - a. Control and expansion joints in unit masonry.
 - b. Perimeter joints between materials listed above and frames of doors and windows.
 - c. Control and expansion joints in ceiling and overhead surfaces.
 - d. Joints between different materials
 - e. Other joints as indicated.
 - 2. Interior joints in the following vertical surfaces and horizontal nontraffic surfaces:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Perimeter joints between interior wall surfaces and frames of interior doors, and windows.
 - d. Other joints as indicated.

1.02 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.03 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each product exposed to view.
- C. Warranties: Special warranties specified in this Section.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.06 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F.
 - 2. When joint substrates are wet.
- B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications

indicated.

- C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.07 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- C. Special Manufacturer's Warranty: Written warranty, signed by elastomeric sealant manufacturer agreeing to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: 5 years from date of Substantial Completion.
- D. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
 - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.01 PRODUCTS AND MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work.
- B. Acceptable Manufacturers – sealants:
 - 1. Sonneborn.
 - 2. General Electric.
 - 3. Dow Corning.
 - 4. Pecora.
 - 5. United States Gypsum.
 - 6. Tremco.

2.02 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
- B. VOC Content of Interior Sealants: Provide interior sealants and sealant primers that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Sealants: 250 g/L.
 - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 - 3. Sealant Primers for Porous Substrates: 775 g/L.
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.03 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those

referencing ASTM C 920 classifications for type, grade, class, and uses.

- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified in the Elastomeric Joint-Sealant Schedule to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

- C. One part polyurethane, two parts polymer, or one part low-modulus silicone sealants at all exterior and interior joints, except horizontal surfaces as follows:

- 1. Products:
 - a. Sika "Sikaflex-1a".
 - b. Sonneborn "Sololastic NP I or NP II".
 - c. Tremco Manufacturing Company "Dymeric" or "Dymonic".
 - d. Pecora "Dynatrol II".
 - e. G.E. "Silpruf".
 - f. Dow Corning "790".
 - g. Or approved equal.

2.04 SILICONE JOINT SEALANTS

- A. Mildew-Resistant, Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.

- 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. Pecora Corporation; 898.

- B. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.

- 1. Products: Subject to compliance with requirements, available products that may be incorporated into the work include but are not limited the following:

- a. Dow Corning Corporation
- b. GE Advanced Materials – Silicones, SilPruf LM SCS2700
- c. May National Associates
- d. Pecora Corporation
- e. Sika Corporation, Construction Products Division; SikaSil-C990
- f. Tremco Incorporated.

2.05 URETHANE JOINT SEALANTS

- A. Single-Component, Nonsag, Traffic-Grade, Urethane Joint Sealant: ASTM C 920. Type S, Grade NS, Class 25, for Use NT.

- 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. BASF Building Systems; Sonolastic Ultra.
- b. May National Associates, Inc.; Bondaflex PUR 40 FC.
- c. Pacific Polymers International, Inc.; Elasto-Thane 230 Type II.
- d. Sika Corporation, Construction Products Division; Sikaflex - 1a.
- e. Tremco Incorporated; Vulkem 116.

2.06 LATEX JOINT SEALANTS

- A. Latex Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

- B. Available Products:

- 1. Pecora Corporation; AC-20+.
- 2. Sonneborn, Division of ChemRex Inc.; Sonolac.
- 3. Tremco; Tremflex 834.

2.07 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

- B. Cylindrical Sealant Backings: ASTM C 1330, Type O (open-cell material), as approved in by joint-sealant manufacturer for joint application indicated, and of size and density to

- control sealant depth and otherwise contribute to optimum sealant performance.
- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.08 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions and the following requirements:
 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 2. Clean porous joint substrate surfaces by brushing to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
 3. Remove laitance and form-release agents from concrete.
 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine

primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.03 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
- D. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- E. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.
- F. Install sealants by proven techniques to comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses provided for each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- G. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealants from surfaces adjacent to joint.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 8A in ASTM C 1193, unless otherwise indicated.
- H. Installation of Preformed Silicone-Sealant System: Comply with manufacturer's written instructions.
- I. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, producing seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in compliance with sealant manufacturer's written instructions.

3.04 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.05 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or

deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

END OF SECTION 07 92 00

SECTION 08 11 50

PREHUNG INSULATED EXTERIOR ENTRY DOOR SYSTEM

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Thermally insulated prehung metal doors.

1.02 RELATED SECTIONS

- A. Section 08 71 00 - Door Hardware.
- B. Section 09 90 00 - Paints and Coatings.

1.03 REFERENCES

- A. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 1998.
- B. ANSI A250.8 - SDI-1 00 Recommended Specifications for Standard Steel Doors and Frames; 2003.
- C. ANSI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 1998.
- D. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2005a.
- E. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2004.
- F. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; The National Association of Architectural Metal Manufacturers; 1999.
- G. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.
- H. UL IOC - Standard for Positive Pressure Fire Tests of Door Assemblies; 1998.

1.04 SUBMITTALS

- A. See Section 01 33 00 – Submittal Procedures for submittal procedures.
- B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.
- C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.

1.05 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.06 DELIVERY, STORAGE, AND PROTECTION

- A. Store in accordance with NAAMM HMMA 840.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

- A. Specifications are based upon the Jeld-Wen products. Products of the following manufacturers, complying with requirements of plans and specification, may also be acceptable:
 - 1. Therma-Tru Entry Doors
 - 2. Jeld-Wen Doors
 - 3. As approved by the Architect.

2.02 INSULATED METAL ENTRY DOOR SYSTEM

- A. Jeld Wen Prehung Contours Steel Door with Auralast Frame
 - 1. Entry Door System to be Energy Star rated
- B. Door
 - 1. Contours series
 - 2. 1 3/4' thickness
 - 3. Face Pattern; as indicated on door schedule
 - 4. Door Surface: smooth

5. 24 gauge galvanized skin with polystyrene core
 6. Steel edge construction; 22 gauge, continuous roll-formed galvanized steel
 7. Finish: two coats baked on enamel primer
 8. R-11 typical
 9. Glazing (where indicated on schedule); insulated glazing with low-E coating
 10. See schedule for any required rating.
- C. Frame
1. Auralast wood
 2. Width: as required for location
 3. Brickmold
- D. Hardware
1. Lockset; None, prep door for lockset furnished under Section 08 71 00 - Finish Hardware
 2. Hinges: Stainless Steel
 3. All manufacturer's premium weather-stripping and sweeps to be included.
 4. Sill: Aluminum, mill finish, low profile, ADA qualified.
 5. Factory prep for additional hardware to be furnished under Section 08 71 00. Refer to hardware groups.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Comply with manufacturers written directions and approved shop drawings for installation and consult with the manufacturers technical representative for any condition not covered.
- B. Use all necessary precautions to protect the installation of the finished doors including covering with polyethylene to prevent soiling, staining or scratching.
- C. Anchor unit in openings per manufacturer's recommendations, as indicated on Drawings, and as follows:
 1. Verify rough opening is level and plumb.
 2. Cut weather resistive barrier, and fold sides into the opening and staple to inside wall. Fold top flap up and temporarily fasten with tape.
 3. Set doors/frame in accordance with manufacturer's written instruction. Set plumb and square. Check operation.
 4. Apply flashing tape at head. Extend minimum 1 inch past side flashing tape.
 5. Fold down top flap of weather resistive barrier and apply flashing tape across diagonal cuts.
 6. Install foam insulating sealant from interior to seal voids between door frame and framing. Take care not to overfill to avoid creating pressure on window unit.
- D. Adjust all operating hardware for proper operation just prior to acceptance and inspection by Owner
- E. Install all accessory trim and sills shown on the Drawings and shop drawings. Carefully fit trim to produce neat and watertight installation. Touch up minor surface damage as necessary and replace trim sections as required. Verify with the Architect, suitability of any repairs.
- F. Caulk all perimeters of frame and metal trim intersections with adjacent construction at the interior and exterior of the building.

3.02 PROTECTION:

- A. Protect doors and frames from damage during subsequent construction activities.

3.03 CLEANING:

- A. Upon completion of installation, clean entire area of excess material and scrap or debris resulting from installation procedures utilized.

END OF SECTION 08 11 50

SECTION 08 41 13

ALUMINUM ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Exterior storefront systems.

1.03 SYSTEM DESCRIPTION

- A. General: Provide aluminum entrance and storefront systems capable of withstanding loads and thermal and structural movement requirements indicated without failure, based on testing manufacturer's standard units in assemblies similar to those indicated for this Project. Failure includes the following:
 - 1. Air infiltration and water penetration exceeding specified limits.
 - 2. Framing members transferring stresses, including those caused by thermal and structural movement, to glazing units.
- B. Glazing: Physically and thermally isolate glazing from framing members.
- C. Thermally Broken Construction: Provide systems that isolate aluminum exposed to exterior from aluminum exposed to interior with a material of low thermal conductance.
- D. Wind Loads: Provide entrance and storefront systems, including anchorage, capable of withstanding wind-load design pressures calculated according to requirements of authorities having jurisdiction or the American Society of Civil Engineers' ASCE 7, "Minimum Design Loads for Buildings and Other Structures," 6.4.2, "Analytical Procedure," whichever are more stringent.
 - 1. Deflection of framing members in a direction normal to wall plane is limited to 1/175 of clear span or 3/4 inch whichever is smaller, unless otherwise indicated.
 - 2. Static-Pressure Test Performance: Provide entrance and storefront systems that do not evidence material failures, structural distress, failure of operating components to function normally, or permanent deformation of main framing members exceeding 0.2 percent of clear span when tested according to ASTM E 330.
 - a. Test Pressure: 150 percent of inward and outward wind-load design pressures.
 - b. Duration: As required by design wind velocity; fastest 1 mile of wind for relevant exposure category.
- E. Dead Loads: Provide entrance- and storefront-system members that do not deflect an amount which will reduce glazing bite below 75 percent of design dimension when carrying full dead load.
 - 1. Provide a minimum 1/8-inch clearance between members and top of glazing or other fixed part immediately below.
- F. Live Loads: Provide entrance and storefront systems, including anchorage, that accommodate the supporting structures' deflection from uniformly distributed and concentrated live loads indicated without failure of materials or permanent deformation.
- G. Air Infiltration: Provide entrance and storefront systems with permanent resistance to air leakage through fixed glazing and frame areas of not more than 0.06 cfm/sq. ft. of fixed wall area when tested according to ASTM E 283 at a static-air-pressure difference of 1.57 lbs/sq. ft.
- H. Water Penetration: Provide entrance and storefront systems that do not evidence water leakage through fixed glazing and frame areas when tested according to ASTM E 331 at minimum differential pressure of 20 percent of inward-acting wind-load design pressure as defined by ASCE 7, "Minimum Design Loads for Buildings and Other Structures," but not less than 6.24 lbs/sq. ft. Water leakage is defined as follows:

1. Uncontrolled water infiltrating systems or appearing on systems' normally exposed interior surfaces from sources other than condensation. Water controlled by flashing and gutters that is drained back to the exterior and cannot damage adjacent materials or finishes is not water leakage.
- I. Thermal Movements: Provide entrance and storefront systems, including anchorage, that accommodate thermal movements of systems and supporting elements resulting from the following maximum change in ambient and surface temperatures without buckling, damaging stresses on glazing, failure of joint sealants, damaging loads on fasteners, failure of doors or other operating units to function properly, and other detrimental effects.
 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.
- J. Structural-Support Movement: Provide entrance and storefront systems that accommodate structural movements including, but not limited to, sway and deflection.
- K. Condensation Resistance: Provide storefront systems with condensation resistance factor (CRF) of not less than 45 when tested according to AAMA 1503.1.
- L. Average Thermal Conductance: Provide storefront systems with average U-values of not more than 0.63 Btu/sq. ft. x h x deg F when tested according to AAMA 1503.1.
- M. Dimensional Tolerances: Provide entrance and storefront systems that accommodate dimensional tolerances of building frame and other adjacent construction.

1.04 SUBMITTALS

- A. Product Data: For each product specified. Include details of construction relative to materials, dimensions of individual components, profiles, and finishes.
- B. Shop Drawings: For entrance and storefront systems. Show details of fabrication and installation, including plans, elevations, sections, details of components, provisions for expansion and contraction, and attachments to other work.
 1. For entrance systems, include hardware schedule and indicate operating hardware types, quantities, and locations.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer to assume engineering responsibility and perform work of this Section who has specialized in installing entrance and storefront systems similar to those required for this Project.
 1. Engineering Responsibility: Prepare data for entrance and storefront systems, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- B. Source Limitations: Obtain each type of entrance and storefront system through one source from a single manufacturer.
- C. Product Options: Drawings indicate size, profiles, and dimensional requirements of entrance and storefront systems and are based on the specific systems indicated.
 1. Do not modify intended aesthetic effect, as judged solely by Architect, except with Architect's approval and only to the extent needed to comply with performance requirements. Where modifications are proposed, submit comprehensive explanatory data to Architect for review.
- D. Welding Standards: Comply with applicable provisions of AWS D1.2, "Structural Welding Code--Aluminum."

1.06 PROJECT CONDITIONS

- A. Shop Drawing Dimensions: Provide drawings indicating dimensions of surrounding construction.

1.07 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Submit a written warranty executed by the fabricator/installer agreeing to repair or replace components of entrance and storefront systems that fail in materials

or workmanship within the specified warranty period. Failures include, but are not limited to, the following:

1. Structural failures including, but not limited to, excessive deflection.
2. Adhesive sealant failures.
3. Cohesive sealant failures.
4. Failure of system to meet performance requirements.
5. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
6. Water leakage through fixed glazing and frame areas.

C. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Interior and Exterior Storefront Framing:
 - a. Kawneer; 451T
 - b. Pittco Industries; TMS 114T
 - c. EFCO: Equivalent systems
 - d. Old Castle Series 3000 Thermal MultiPlane
 - e. Tubelite, T14000
 - f. Manko, 2450
- e. Substitutions: Allowed in accordance with the requirements of Section 01 60 00.
2. Interior and Exterior Entrance Systems: Entrance systems by Storefront Framing manufacturer.

2.02 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated, complying with the requirements of standards indicated below.
1. Sheet and Plate: ASTM B 209.
 2. Extruded Bars, Rods, Shapes, and Tubes: ASTM B 221.
 3. Extruded Structural Pipe and Tubes: ASTM B 429.
 4. Bars, Rods, and Wire: ASTM B 211.
 5. Welding Rods and Bare Electrodes: AWS A5.10.
- B. Steel Reinforcement: Complying with ASTM A 36 for structural shapes, plates, and bars; ASTM A 611 for cold-rolled sheet and strip; or ASTM A 570 for hot-rolled sheet and strip.
- C. Glazing as specified in Division 8 Section "Glazing."
- D. Glazing Gaskets: Manufacturer's standard pressure-glazing system of black, resilient glazing gaskets, setting blocks, and shims or spacers, fabricated from an EPDM of type and in hardness recommended by system and gasket manufacturer to comply with system performance requirements. Provide gasket assemblies that have corners sealed with sealant recommended by gasket manufacturer.
- E. Spacers, Setting Blocks, Gaskets, and Bond Breakers: Manufacturer's standard permanent, non-migrating types in hardness recommended by manufacturer, compatible with sealants, and suitable for system performance requirements.
- F. Secondary Sealant: For use as weather seal, compatible with structural silicone sealant and other system components with which it comes in contact, and that accommodates a 50 percent increase or decrease in joint width at the time of application when measured according to ASTM C 719.
1. Color: Match seals for Aluminum window units.
 2. Use Dow Corning 790, Volkem 116, NP1.
- G. Framing system gaskets, sealants, and joint fillers as utilized by manufacturer for joint type to obtain performance testing required by specification.
- H. Sealants and joint fillers for joints at perimeter of entrance and storefront systems will be two complete lines with a weeped space in between. Primary (inside seal) Secondary

(exterior seal) to both is Dow Corning 795 Silicone backed by non-skin closed cell foam backer rod, such as Denver Foam.

2.03 COMPONENTS

- A. Frames: Thermally broken with interior portion of frame insulated from exterior portion, center glazings. Frames for interior glazing need not be thermally broken. Profile as designated in Drawings; door frame face dimension to match face dimension of Aluminum Window framing; chosen from manufacturer's standard frame size:
 - 1. Face Size: 2 inch.
 - 2. Depth: Manufacturer's standard to meet performance requirements and Drawings requirements, 4-1/2 inch.
- B. Doors: Provide manufacturer's standard 1-3/4-inch thick glazed doors with minimum 0.125-inch thick, extruded tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deep penetration and fillet welded.
 - 1. Stile Design: Per Drawings
- C. Brackets and Reinforcements: Provide manufacturer's standard brackets and reinforcements that are compatible with adjacent materials. Provide nonstaining, nonferrous shims for aligning system components.
- D. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
 - 1. Reinforce members as required to retain fastener threads.
 - 2. Do not use exposed fasteners, except for hardware application. For hardware application, use countersunk Phillips flat-head machine screws finished to match framing members or hardware being fastened, unless otherwise indicated.
- E. Concrete Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123 or ASTM A 153 requirements.
- F. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing, compatible with adjacent materials. Aluminum or Stainless Steel is required.
- G. Weather Stripping: Manufacturer's standard replaceable weather stripping as follows:
 - 1. Compression Weather Stripping: Molded neoprene complying with ASTM D 2000 requirements or molded PVC complying with ASTM D 2287 requirements.

2.04 HARDWARE

- A. General: Provide heavy-duty hardware units indicated in sizes, number, and type recommended by manufacturer for entrances indicated. Finish exposed parts to match door finish, unless otherwise indicated.
- B. Ball-Bearing Butts: ANSI/BHMA A156.1, Grade 1, 5-knuckle, 4-1/2-by-4-inch ball-bearing butts. Provide non-removable pins at hinges exposed to door outside and provide nonferrous hinges for applications exposed to weather. Provide 3 hinges at each leaf for doors up to 36 inches wide and 80 inches tall; provide 4 hinges at each leaf for taller doors.
 - 1. Use continuous hinge on all storefront doors over 36" wide.
- C. Closers, General: Comply with manufacturer's recommendations for closer size, depending on door size, exposure to weather, and anticipated frequency of use.
 - 1. Closing Cycle: Comply with requirements of authorities having jurisdiction or the Americans with Disabilities Act (ADA), whichever is more stringent.
 - 2. Locations indicated:
 - a. Exterior Doors: 15 lbs (67 N).
 - b. Interior Doors: 5 lbs (22.2 N).
- D. Cylinders: As specified in Division 8 Section "Door Hardware."
- E. Rim-Mounted Exit Devices: Rim-type exit device complying with UL 305 requirements and with one-point latching at door-lock stile that is released by a full-width crash bar or when locked down (dogged) by lock cylinder or retracting screws beneath housing.
- F. Pull Handles: As selected by Architect from manufacturer's full range of pull handles and plates.

- G. Thresholds: At exterior doors, provide manufacturer's standard threshold with cutouts coordinated for operating hardware, with anchors and jamb clips, and not more than 1/2-inch high, with beveled edges providing a floor level change with a slope of not more than 1:2, and in the following material:
 - 1. Material: Aluminum, mill finish.
- H. Weather Sweeps: Manufacturer's standard weather sweep for application to exterior door bottoms and with concealed fasteners on mounting strips.

2.05 FABRICATION

- A. General: Fabricate components that, when assembled, will have accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.
 - 1. Fabricate components for shear-block frame construction.
- B. Forming: Form shapes with sharp profiles, straight and free of defects or deformations, before finishing.
- C. Prepare components to receive concealed fasteners and anchor and connection devices.
- D. Fabricate components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.
- E. Welding: Weld components to comply with referenced AWS standard. Weld before finishing components to greatest extent possible. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- F. Glazing Channels: Provide minimum clearances for thickness and type of glass indicated according to FGMA's "Glazing Manual."
- G. Metal Protection: Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- H. Storefront: Fabricate framing in profiles indicated. Provide subframes and reinforcing of types indicated or, if not indicated, as required for a complete system. Factory assemble components to greatest extent possible. Disassemble components only as necessary for shipment and installation.
- I. Entrances: Fabricate door framing in profiles indicated. Reinforce as required to support imposed loads. Factory assemble door and frame units and factory install hardware to greatest extent possible. Reinforce door and frame units as required for installing hardware indicated. Cut, drill, and tap for factory-installed hardware before finishing components.
 - 1. Exterior Doors: Provide compression weather stripping at fixed stops. At other locations, provide sliding weather stripping retained in adjustable strip mortised into door edge.

2.06 ALUMINUM FINISHES

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
 - 1. Exposed Finish for System Framing and Entrance Assemblies: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's written instructions.
 - 2. Surface: Smooth, flat, mill finish.
 - 3. Exposed Finish: Fluoropolymer, two-coat, thermocured system with fluoropolymer coat containing not less than 50 percent polyvinylidene fluoride resin by weight.
 - 4. Color:
 - a. Per Drawings.

2.07 STEEL PRIMING

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying primer.
- B. Surface Preparation: Perform manufacturer's standard cleaning operations to remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel.
- C. Priming: Apply manufacturer's standard corrosion-resistant primer immediately after surface preparation and pretreatment.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of entrance and storefront systems. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Prepare surfaces that are in contact with structural sealant according to sealant manufacturer's written instructions to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.

3.03 INSTALLATION

- A. General: Comply with manufacturer's written instructions for protecting, handling, and installing entrance and storefront systems. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints. Seal joints watertight.
- B. Metal Protection: Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Install components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.
- D. Set continuous sill members and flashing with factory applied and sealed end dams in a full sealant bed to provide weathertight construction.
- E. Install framing components plumb and true in alignment with established lines and grades without warp or rack of framing members.
- F. Install entrances plumb and true in alignment with established lines and grades without warp or rack. Lubricate operating hardware and other moving parts according to hardware manufacturers' written instructions.
 - 1. Install surface-mounted hardware according to manufacturer's written instructions using concealed fasteners to greatest extent possible.
- G. Install glazing to comply with requirements of Division 8 Section "Glazing," unless otherwise indicated.
 - 1. Prepare surfaces that will contact structural sealant according to sealant manufacturer's written instructions to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.
 - 2. Mechanically fasten glazing in place until structural sealant is cured.
 - 3. Remove excess sealant from component surfaces before sealant has cured.
- H. Install secondary-sealant weather seal according to sealant manufacturer's written instructions to provide weatherproof joints. Install joint fillers behind sealant as required to obtain appropriate seal joint.
- I. Install two lines of perimeter sealant and weep space between to exterior to comply with requirements of a pressure equalized joint design.
- J. Erection Tolerances: Install entrance and storefront systems to comply with the following maximum tolerances:
 - 1. Variation from Plane: Limit variation from plane or location shown to 1/8 inch in 12 feet; 1/4 inch over total length.

2. Alignment: Where surfaces abut in line, limit offset from true alignment to 1/16 inch. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch.
3. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch.

3.04 FIELD QUALITY CONTROL

- A. Repair or remove and replace Work that does not meet requirements; replace to conform to specified requirements.

3.05 ADJUSTING AND CLEANING

- A. Adjust doors and hardware to provide tight fit at contact points and weather stripping, smooth operation, and weathertight closure.
- B. Remove excess sealant and glazing compounds, and dirt from surfaces.

END OF SECTION 08 41 13

SECTION 08 52 13

METAL CLAD WOOD WINDOWS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Section 01 60 00 – Product Requirements
- B. Section 07 92 00 – Joint Sealant
- D. Section 09 90 00 – Painting

1.02 SUMMARY

- A. Section includes aluminum-clad wood windows.
- B. Clad Double Hung, Single Hung, Transom, Picture window complete with hardware, glazing, weather strip, insect screen, removable grille, grille-between-the-glass, simulated divided lite, jamb extension, combination storm/screen, and standard or specified anchors, trim, attachments, and accessories

1.03 REFERENCES

- A. American Society for Testing Materials (ASTM):
 - 1. E 283: Standard Test method for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors
 - 2. E 330: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Door by Uniform Static Air Pressure Difference
 - 3. E 547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential
 - 4. E 2190: Specification for Sealed Insulated Glass Units
 - 5. C 1036: Standard Specification for Flat Glass
 - 6. F 2090-10: Standard Specifications for Windows Fall Prevention Devices with Emergency Escape (egress) Release Mechanisms
- B. American Architectural Manufacturer's Association/Window and Door Manufacturer's Association (AAMA/WDMA/CSA):
 - 1. AAMA/WDMA/CSA 101/I.S.2/A440-05 Standard/Specification for Window, Skylights and Doors
 - 2. AAMA/WDMA/CSA 101/I.S.2/A440-08, NAFS – North American Fenestration Standard/Specification for Windows, Doors and Skylights
 - 3. AAMA/WDMA/CSA 101/I.S.2/A440-11, NAFS 2011 – Northern American Fenestration Standard/Specification for Windows, Doors and Skylights
- C. WDMA I.S.4: Industry Standard for Water Repellant Preservative Treatment for Millwork
- D. Window and Door Manufacturer's Association (WDMA): 101/I.S.2 WDMA Hallmark Certification Program
- E. Sealed Insulating Glass Manufacturer's Association/Insulating Glass Certification Council (SIGMA/IGCC)
- F. American Architectural Manufacturer's Association (AAMA): 2605: Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels
- G. National Fenestration rating Council (NFRC):
 - 1. 101: Procedure for Determining Fenestration Product thermal Properties
 - 2. 200: Procedure for Determining Solar Heat Gain Coefficients at Normal Incidence

1.04 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for wood windows.
- B. Shop Drawings: Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.

1.05 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer and Installer.
- B. Product Test Reports: For each type of wood window, for tests performed by a qualified testing agency.
- C. Field quality-control reports.
- D. Sample Warranties: For manufacturer's warranties.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A manufacturer capable of fabricating wood windows that meet or exceed performance requirements indicated and of documenting this performance by test reports, and calculations.
- B. Installer Qualifications: An installer acceptable to wood window manufacturer or supplier for installation of units required for this Project.
- C. Requirements: consult local code for IBC [International Building Code] and IRC [International residential Code] adoption year and pertinent revisions for information on:
 - 1. Egress, emergency escape and rescue requirements
 - 2. Windows fall prevention and/or window opening control device requirements.

1.07 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace wood windows that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Failure to meet performance requirements.
 - b. Structural failures including excessive deflection, water leakage, and air infiltration.
 - c. Faulty operation of movable sash and hardware.
 - d. Deterioration of materials and finishes beyond normal weathering.
 - e. Failure of insulating glass.
 - 2. Warranty Period:
 - a. Window: 10 years from date of Substantial Completion.
 - b. Glazing Units, Non-laminated: 20 years from date of Substantial Completion.
 - c. Glazing Units, Laminated: 10 years from date of Substantial Completion.
 - d. Aluminum-Cladding Finish: 10 years from date of Substantial Completion.
 - e. Standard exterior cladding finish is warranted against manufacturing defects resulting in chalk, fade and loss of adhesion (peel) per the American Manufacture's Association's (AAMA) Specification 2605-11 Section 8.4 and 8.9 for twenty (20) years from the original date of purchase.
 - f. Factory applied interior finish is warranted to be free from finish defects for a period of five (5) years from the original date of purchase.
 - g. Hardware and other non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

1.08 DELIVERY

- A. Deliver in original packaging and protect from weather.

1.09 STORAGE AND HANDLING

- A. Prime and seal wood surfaces, including to be concealed by wall construction, if more than thirty (30) days will expire between delivery and installation
- B. Store window units in an upright position in a clean and dry storage area above ground to protect from weather.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Subject to compliance with requirements, provide products by one of the following:
 - 1. Aluminum-Clad Wood Windows:

- a. EAGLE Window & Door, Inc.; an Andersen Window & Door company.
 - b. Kolbe Ultra Series
 - c. Marvin Windows and Doors.
 - d. Pella Windows Designer Series or better.
 - e. Sierra Pacific Windows Monument Series or better.
 - B. Source Limitations: Obtain windows from single source from single manufacturer.
- 2.02 WINDOW PERFORMANCE REQUIREMENTS**
- A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
 - 1. Window Certification: WDMA Hallmark certified with label attached to each window.
 - B. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440 as follows:
 - Minimum Performance Class: LC.
 - 1. Minimum Performance Grade: 25.
 - C. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.30 Btu/sq. ft. x h x deg F.
 - D. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.40.
 - E. Sound Transmission Class (STC): Rated for not less than 26 STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.
- 2.03 WINDOWS**
- A. Operating Types: Provide the following operating types in locations indicated on Drawings:
 - 1. Single hung.
 - 2. Double hung.
 - 3. Fixed.
 - B. Frames and Sashes: Fine-grained wood lumber complying with AAMA/WDMA/CSA 101/I.S.2/A440; kiln dried to a moisture content of not more than 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch deep by 2 inches wide; water-repellent preservative treated.
 - 1. Frame Description
 - a. Frame exterior clad with 0.050" thick extruded aluminum
 - b. Frame thickness: 1-11/16" head jamb, 1-11/32" composite side jamb
 - c. Round Top Frame thickness: 1-11/32" head jamb 1-11/32", composite side jamb 1-7/16
 - d. Frame depth: Frame depth had an overall 5-21/32" jamb.
 - e. Frame bevel: 8 degree bevel
 - f. Sill: 1-7/16"
 - 2. Sash Description
 - a. Interior: Clear pine.
 - b. Sash exterior clad with 0.050" thick extruded aluminum
 - c. Sash thickness: 1-9/16" for operating units, 1-7/8" for stationary units. Corner slot and tenoned.
 - d. Operable sash tilt to interior for cleaning or removal
 - e. Sash Options: Unequal Sash
 - f. Interior Sash Sticking
 - 1) Standard is: Ovolo
 - 2) Optional Interior Square sticking
 - 3. Finishes
 - a. Exterior Finish: Aluminum-clad.
 - 1) Aluminum Finish: Fluoropolymer modified acrylic topcoat applied over primer. Meets AAMA 2605 requirements.

- a) Color: Per Drawings
 - b. Interior Finish: Per Drawings
 - 1) Exposed Unfinished Wood Surfaces: Pine.
 - C. Insulating-Glass Units: ASTM E 2190 certified through IGCC as complying with requirements of IGCC.
 - 1. Glass: ASTM C 1036, Type 1, Class 1, q3.
 - a. Tint or Pattern: Clear.
 - b. Kind: Fully tempered ASTM C 1048 as needed.
 - 2. Lites: Two.
 - 3. Filling: Fill space between glass lites with argon.
 - 4. Low-E Coating: Sputtered on second surface.
 - D. Glazing System: Silicone bedding at interior and exterior.
 - 1. Double Pane
 - a. Glazing seal: Silicone bedding on interior, acrylic foam adhesive tape on exterior.
 - b. Glass Type: Clear; LoE2 272® with argon.
 - E. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.
 - 1. Exposed Hardware Color and Finish: Per Drawings.
 - F. Hung Window Hardware:
 - 1. Counterbalancing Mechanism: Complying with AAMA 902, concealed, of size and capacity to hold sash stationary at any open position.
 - 2. Locks and Latches: Allow unobstructed movement of the sash across adjacent sash in direction indicated and operated from the inside only.
 - 3. Tilt Hardware: Releasing tilt latch allows sash to pivot about horizontal axis to facilitate cleaning exterior surfaces from the interior.
 - G. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.
 - H. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
 - 1. Exposed Fasteners: Do not use exposed fasteners to the greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.
 - I. Jamb Extensions:
 - 1. Jamb extensions are available for various wall thicknesses factory applied up to a 12" wide
 - 2. Finish: Match interior frame finish

2.04 INSECT SCREENS

- A. General: Fabricate insect screens to integrate with window frame. Provide screen for each operable exterior sash. Screen wickets are not permitted.
 - 1. Type and Location: Full, outside for double-hung or half, outside for single-hung sashes.
 - 2. Screen Mesh: Charcoal fiberglass.
- B. Aluminum Frames: Manufacturer's standard aluminum alloy complying with SMA 1004 or SMA 1201. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
 - 1. Tubular Framing Sections and Cross Braces: Roll formed from aluminum sheet.
 - 2. Finish for Exterior Screens: Matching color and finish of cladding.

2.05 FABRICATION

- A. Fabricate wood windows in sizes indicated. Include a complete system for installing and anchoring windows.

- B. Weather strip each operable sash to provide weathertight installation.
- C. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.
- C. Examine wall flashings, vapor barriers, water and weather barriers, and other built-in components to ensure weathertight window installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
- B. Install windows level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.
- C. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action, dissimilar materials, treated lumber, etc.) at the points of contact with other materials.
- D. For fin method of attachment, integrate window system installation with exterior water-resistant barrier using flashing/sealant tape. Apply and integrate flashing/sealant tape with water-resistant barrier using watershed principles in accordance with window manufacturer's instructions.
- E. Place interior seal around window perimeter to maintain continuity of building thermal and air barrier using insulating-foam sealant.
- F. Seal window to exterior wall cladding with sealant and related backing materials at perimeter of assembly.
- G. Leave windows closed and locked.

3.03 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
- B. Clean exposed surfaces immediately after installing windows. Remove excess sealants, glazing materials, dirt, and other substances.
 - 1. Keep protective films and coverings in place until final cleaning.
- C. Remove and replace sashes if glass has been broken, chipped, cracked, abraded, or damaged during construction period.
- D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION 08 52 13

SECTION 08 59 20

HISTORIC TREATMENT OF WOOD WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

- A. This project includes multiple separate buildings. The building plans, elevations, floor plans, and window schedules outline the work to be performed on each building. Work ranges from minor filling and repair of existing windows prior to painting, and sash and frame repair.
- B. Related Requirements:
 - 1. Section 08800 Glazing

1.2 DEFINITIONS

- A. Window: Includes window frame, sash, hardware, trim, and storm window unless otherwise indicated by context.
- B. Restore: Indicates to fully strip all paint from window sashes (not trim, unless noted otherwise) without damaging historic glass or wood; wood filling and patching with wood repair materials indicated in this section; replacing glass where specifically noted in drawings; reglazing glass with glazing putty/compound; repainting the exterior of the sashes and staining/finishing the interior per specifications. Additionally, for hung windows it includes: installing new sash cord and weights as needed; installing weatherstripping as indicated in this section; and making sure windows and locks function smoothly and seal tightly.
- C. Exterior Trim: Exterior casing, brick mold, and cornice or drip cap.
- D. Interior Trim: Casing, stool, and apron.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to historic treatment of wood windows.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, elevations, and sections showing locations and details of each new unit and its corresponding window locations in the building on annotated plans and elevations.
- C. Samples: For each exposed product and for each color and texture specified.

1.5 QUALITY ASSURANCE

- A. Historic Treatment Specialist Qualifications: A qualified historic wood window specialist, experienced in repairing, refinishing, and replacing wood windows in whole and in part. Experience only in fabricating and installing new wood windows is insufficient experience for wood-window historic treatment work.
- B. Wood-Repair-Material Manufacturer Qualifications: A firm regularly engaged in producing wood consolidant and wood-patching compound that have been used for similar historic wood-treatment applications with successful results, and with factory-authorized service representatives who are available for consultation and Project-site inspection and on-site assistance.
- C. Mockups: Prepare mockups of historic treatment repair processes to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation. Prepare mockups so they are as inconspicuous as practicable.
 - 1. Wood Window Repair: Prepare one entire window unit to serve as mockup to demonstrate samples of each type of repair of wood window members including

frame, sash, glazing, and hardware.

PART 2 - PRODUCTS

2.1 HISTORIC TREATMENT OF WOOD WINDOWS, GENERAL

- A. Quality Standard: Comply with applicable standards from the "Window Preservation Standards" current edition by the Window Preservation Standard Collaborative (WPSC).

2.2 REPLICATED WOOD WINDOW UNITS

- A. Replicated Wood Window Frames and Sash: Custom-fabricated replacement wood units and trim for large-format storefront windows.

- 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Adams Architectural Millwork Co.; Subsidiary of Dubuque Sash & Door Mfg.
 - b. Allegheny Restoration & Builders Inc.
 - c. Architectural Components, Inc.
 - d. Bear Wood Windows, Inc.
 - e. Cleary and Son, Inc.
 - f. Custom Wood Reproductions Inc.
 - g. Grabill Windows & Doors.
 - h. H. Hirschmann LTD.
 - i. Kingsland Architectural Millwork.
 - j. Olek Lejbzon & Co.
 - k. Parrett Manufacturing, Inc.
 - l. Replica Windows.
 - m. Smith Restoration Sash.
 - n. Weston Millwork Company.
 - o. Wewoka Window Works.
 - p. Woodstone Company (The).
 - q. Wood Window Workshop.
- 2. Wood Species: Match wood species of exterior window trim and sash parts.
- 3. Wood Window Members and Trim: Match profiles and detail of existing window members and trim.
- 4. Glazing Stops: Provide replacement glazing stops coordinated with glazing system indicated.
- 5. Exposed Hardware: Reuse existing hardware on repaired windows. Match existing exposed window hardware on buildings where some existing sash is to remain.

2.3 WOOD-REPLACEMENT MATERIALS

- A. Wood, General: Clear fine-grained lumber; kiln dried to a moisture content of 6 to 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch (0.8 mm) deep by 2 inches (51 mm) wide.
 - 1. Species: Match species of each existing type of wood component or assembly unless otherwise indicated.

2.4 WOOD-REPAIR MATERIALS

- A. Wood Consolidant: Ready-to-use product designed to penetrate, consolidate, and strengthen soft fibers of wood materials that have deteriorated due to weathering and decay and designed specifically to enhance the bond of wood-patching compound to existing wood.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Abatron, Inc.; LiquidWood.
 - b. ConServ Epoxy LLC; Flexible Epoxy Consolidant 100.

- c. Gougeon Brothers, Inc.; West System.
 - d. Protective Coating Company; PC-Petrifier or PC-Rot Terminator.
 - e. System Three Resins, Inc.; RotFix.
- B. Wood-Patching Compound: Two-part epoxy-resin wood-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of wood repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be designed for filling voids in damaged wood materials that have deteriorated due to weathering and decay. Compound shall be capable of filling deep holes and spreading to feather edge.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Abatron, Inc.; LiquidWood with WoodEpoxy.
 - b. Advanced Repair Technology, Inc.; Primatrate with Flex-Tec HV.
 - c. ConServ Epoxy LLC; Flexible Epoxy Consolidant 100 with Flexible Epoxy Patch 200.
 - d. Gougeon Brothers, Inc.; West System thickened with filler.
 - e. Polymeric Systems, Inc.; QuickWood.
 - f. Protective Coating Company; PC-Woody.
 - g. System Three Resins, Inc.; Sculpwood.

2.5 GLAZING MATERIALS

- A. Glass: See Section 08800 "Glazing"
- B. Glazing Systems:
 - 1. Traditional Glazing Products: Glazing points and oil-based glazing putty or compound.
 - a. UGL Glazol.
 - b. Other products subject to approval by architect in advance. DAP products are not allowed.
 - 2. Primers and Cleaners for Glazing: As recommended in writing by glazing material manufacturer.

2.6 HARDWARE

- A. Replacement Hardware: Replace existing damaged or missing hardware with new or salvaged hardware.
- B. Material and Design:
 - 1. Material: Solid bronze, cast or wrought aluminum or nonmagnetic stainless steel unless otherwise indicated.
 - 2. Historic style spoon locks.
 - 3. Sash lifts to match existing.
- C. Hardware Finishes: Comply with BHMA A156.18 for base material and finish requirements indicated.

2.7 MISCELLANEOUS MATERIALS

- A. Cotton sash rope/cord. Nylon is not allowed.
- B. New or salvaged window weights as needed to counter-balance sashes.
- C. Silicone rubber tubeseals routed into sashes with a router and three winged slot cutting bit.
 - a. Products: Conservation Technology, Weatherseals. WS32 for meeting rails and WS35 for bottom rail.
 - b. https://www.conservationtechnology.com/building_weatherseals_components.html
- D. Bronze/brass Premko Interlock Weatherstrip for Wood Windows, plain rib strips.
- E. Cleaning Materials:
 - 1. Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium

- pyrophosphate (TSPP), 1/2 cup (125 mL) of laundry detergent that contains no ammonia, 5 quarts (5 L) of 5 percent sodium hypochlorite bleach, and 15 quarts (15 L) of warm water for each 5 gal. (20 L) of solution required.
- 2. Mildewcide: Commercial, proprietary mildewcide or a solution prepared by mixing 1/3 cup (80 mL) of household detergent that contains no ammonia, 1 quart (1 L) of 5 percent sodium hypochlorite bleach, and 3 quarts (3 L) of warm water.
- F. Adhesives: Wood adhesives for exterior exposure, with minimum 15- to 45-minute cure at 70 deg F (21 deg C), in gunnable and liquid formulations as recommended in writing by adhesive manufacturer for each type of repair.
- G. Fasteners: Use fastener metals that are noncorrosive and compatible with each material joined.
 - 1. Match existing fasteners in material and type of fastener unless otherwise indicated.
 - 2. Use concealed fasteners for interconnecting wood components.
 - 3. Use concealed fasteners for attaching items to other work unless exposed fasteners are the existing fastening method or are unavoidable.
 - 4. For fastening metals, use fasteners of same basic metal as fastened metal unless otherwise indicated.
 - 5. For exposed fasteners, use Phillips-type machine screws of head profile flush with metal surface unless otherwise indicated.
 - 6. Finish exposed fasteners to match finish of metal fastened unless otherwise indicated.
- H. Anchors, Clips, and Accessories: Fabricate anchors, clips, and window accessories of aluminum, nonmagnetic stainless steel, or hot-dip zinc-coated steel complying with requirements in ASTM B 633 for SC 3 (Severe) service condition.

2.8 WOOD WINDOW FINISHES

- A. Procedure: Strip existing paint from all sashes following lead-safe work practices, down to bare wood.
- B. Exterior Sash Finish: Painted, color as shown on drawings. If not shown on drawings, custom color TBD.
- C. Interior Sash Finish: Custom stain color, TBD with two coats of poly-urethane.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean wood windows of mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. After cleaning, rinse thoroughly with fresh water. Allow to dry before repairing or painting.
- B. Condition replacement wood members and replacement units to prevailing conditions at installation areas before installing.

3.2 HISTORIC TREATMENT OF WOOD WINDOWS, GENERAL

- A. General: In treating historic items, disturb them as minimally as possible and as follows:
 - 1. Stabilize and repair wood windows to reestablish structural integrity and weather resistance while maintaining the existing form of each item.
 - 2. Remove coatings and apply borate preservative treatment before repair. Remove coatings according to Section 09991 "Historic Treatment of Plain Painting" unless otherwise indicated.
 - 3. Install temporary protective measures to protect wood window work that is indicated to be completed later.
- B. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use only the

gentlest mechanical methods, such as scraping and natural-fiber bristle brushing, that will not abrade wood substrate, reducing clarity of detail. Do not use abrasive methods such as sanding, wire brushing, or power tools except as approved by Architect. It is assumed for all existing windows that lead based paint and finishes have been used in past applications. Employ methods to minimize dust on surfaces containing lead.

- C. Repair and Refinish Existing Hardware: Dismantle window hardware; strip paint, repair, and refinish it to match finish samples; and lubricate moving parts just enough to function smoothly.
- D. Repair Wood Windows: Match existing materials and features, retaining as much original material as possible to perform repairs.
 - 1. Unless otherwise indicated, repair wood windows by consolidating, patching, splicing, or otherwise reinforcing wood with new wood matching existing wood or with salvaged, sound, original wood.
 - 2. Where indicated, repair wood windows by limited replacement matching existing material.
 - 3. Sash Balance: All existing sash balances are to be removed and replaced unless specifically noted in the drawings. Provide new sash balances to function according to type as specified in "Hardware" Article" above. Where existing counter balanced sash balances are being replaced, window weights, ropes, and pulleys are to be removed through the balance access, the void space filled with insulation, and the balance reinstalled.
- E. Replace Wood Units: Where indicated, duplicate and replace units with units made from salvaged, sound, original wood or with new wood matching existing wood. Use surviving prototypes to create patterns for duplicate replacements.
- F. Protection of Openings: Where sash or windows are indicated for removal, cover resultant openings with temporary enclosures so that openings are weathertight and secure during repair period.
- G. Identify removed windows, frames, sash, and members with numbering system corresponding to window locations to ensure reinstallation in same location.

3.3 WOOD WINDOW PATCH-TYPE REPAIR

- A. General: Patch wood members that exhibit depressions, holes, or similar voids, and that have limited amounts of rotted or decayed wood. For each window unit to be repaired select one of the following methods of repair.
 - 1. Treat wood members with wood consolidant before applying patching compound. Coat wood surfaces by brushing, applying multiple coats until wood is saturated and unable to absorb more. Allow treatment to harden before filling void with patching compound.
 - 2. Remove rotted or decayed wood down to sound wood.
- B. Apply borate preservative treatment to accessible surfaces either before applying wood consolidant or after removing rotted or decayed wood.
- C. Apply wood-patching compound to fill depressions, nicks, cracks, and other voids created by removed or missing wood.
 - 1. Prime patch area with application of wood consolidant or manufacturer's recommended primer.
 - 2. Apply patching compound in layers as recommended in writing by manufacturer until the void is completely filled.
 - 3. Sand patch surface smooth and flush with adjacent wood, without voids in patch material, and matching contour of wood member.

3.4 WOOD WINDOW MEMBER-REPLACEMENT REPAIR

- A. General: Replace parts of or entire wood window members at locations indicated on Schedules in the Drawings. See additional notes on the drawings.
- B. Scheduled Repairs:

1. Replacement of wood frame or sash members with new members as part of the existing unit. Do not splice sash members. Frame members may be spliced.
 2. Replacement of entire sash units.
 3. Secure new wood using finger joints, multiple dowels, or splines with adhesive and nailing to ensure maximum structural integrity at each splice. Use only concealed fasteners. Fill nail holes and patch surface to match surrounding sound wood.
 4. Repair of broken or cracked glass. Provide new glazing to match glass type and thickness of the original unit.
- C. General Repairs- The following identify the general type of repairs to be conducted on all existing wood windows in addition to the repairs noted in the schedules.
1. Wood Repair: Remove broken, rotted, and decayed wood down to sound wood and repair with consolidants, wood filler and joint tightening.
 2. Repair remaining depressions, holes, or similar voids with patch-type repairs.
 3. Apply borate preservative treatment to accessible new and existing bare wood surfaces after replacements are made. Apply treatment liberally by brush to joints, edges, and ends; top, sides, and bottom.
 4. Glazing: Reglaze existing units before reinstallation. Remove existing glazing material and install new. Provide new glazing stops coordinated with the existing or new glass and setting system.
 5. Weather Stripping: Replace nonfunctioning and install missing weather stripping to ensure full- perimeter and meeting rail weather stripping for each operable sash.
 6. Tighten loose joints and conform to existing opening with concealed hardware.
 7. Hardware- Replace missing or damaged hardware with new to match existing or as specified.
 8. Install new sash balances as specified on all window units, remove all sash balances including weights, and fill weight pockets with insulation.
- D. Reinstall units removed for repair into original openings.
- E. If repairs beyond the scheduled number are indicated during the repair process, notify the Architect at once and document the conditions with photographs and descriptions.

3.5 GLAZING

- A. Comply with combined written instructions of manufacturers of glass, glazing systems, and glazing materials,
- B. Remove cracked and damaged glass and glazing materials from openings and prepare surfaces for reglazing.
- C. Size glass as required by Project conditions to provide necessary bite on glass, minimum edge and face clearances, with reasonable tolerances.
- D. Apply primers to joint surfaces where required for adhesion of glazing system, as determined by preconstruction testing.
- E. Install setting bead, side beads, and back bead against stop in glazing rabbets before setting glass.
- F. Install glass with proper orientation so that coatings, if any, face exterior or interior as required.
- G. Disposal of Removed Glass: Remove from Owner's property and legally dispose of it unless otherwise indicated.

3.6 WOOD WINDOW UNIT REPLACEMENT

- A. General: Replace existing wood window frame, sash, storm window, and screen units with new custom- fabricated units to match existing at locations indicated on drawings and schedules.
- B. Apply borate preservative treatment to accessible surfaces before finishing. Apply treatment liberally by brush to joints, edges, and ends; top, sides, and bottom.
- C. Mill glazed members to accommodate glass thickness. Glaze units before installation.
- D. Install units level, plumb, square, true to line, without distortion or impeding movement;

anchored securely in place to structural support; and in proper relation to wall flashing, trim, and other adjacent construction.

- E. Set sill members in bed of sealant for weathertight construction unless otherwise indicated.
- F. Install window units with new anchors into existing openings.
- G. Weather Stripping: Install full-perimeter and meeting rail weather stripping for each operable sash.
- H. Metal Protection: Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- I. Disposal of Removed Units: Remove from Owner's property and legally dispose of them unless otherwise indicated.

3.7 STORM WINDOW INSTALLATION

- A. Install interior or exterior storm windows at each window jamb indicated on drawings.

3.8 WEATHER STRIPPING INSTALLATION

- A. Install weather stripping for tight seal of joints as determined by preconstruction testing and demonstrated in mockup.

END OF SECTION 08 59 20

SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Hardware for doors.

1.02 REFERENCES

- A. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities
- B. 2010 ADA Standards for Accessible Design
- C. ANSI A156 Series – Hardware Standards.
- D. ASTM F476 – Security of Swinging Door Assemblies.
- E. BHMA 1301 – Material and Finishes Standards.
- F. DHI – Door Hardware Institute.
- G. NFPA 101 – Life Safety Code.
- H. IBC – 2015
- I. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.03 SUBMITTALS

- A. Product Data: Specific hardware, with catalog cuts; ANSI reference standard, grade, and function where applicable; BHMA 101 finish; for each type of hardware.
- B. Shop Drawings: indicate mounting locations and mounting heights for each type of hardware. Report conflicts to Architect.
- C. Keying Schedule: Prepared under the supervision of the Owner, separate schedule detailing final keying instructions for locksets and cylinders in writing. Include keying system explanation, door numbers, key set symbols, and special instructions. Owner to approve submitted keying schedule prior to the ordering of permanent cylinders.
- D. Operation and Maintenance Manual: include manufacturer's descriptive literature, adjustment instructions, lubrication requirements, and inspection procedures related to preventive maintenance.
- E. Hardware Schedule: Detailed listing of each item of hardware to be installed on each door. Use door numbering scheme as included in the Contract Documents. Include quantity, type, location finish and manufacturer of each item of hardware for each opening. Identify electrically operated items and include power requirements.

1.04 WARRANTY

- A. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- B. Warranty: Manufacturer's Standard Warranty: One year from date of Substantial completion, unless otherwise indicated.
- C. Special Warranty Periods:
 - 1. Locksets and latchsets:
 - a. Repair or replace defective sets for a period of 5 years from the date of Substantial Completion.
 - b. Provide a lifetime warranty against lever sag.
 - 3. Exit/panic devices: Repair or replace defective devices for a period of 5 years from the date of Substantial Completion.
 - 4. Closers:
 - a. Repair or replace defective mechanical components (such as, but not limited to, rack and pinion, seals, arms) for a period of 10 years from the

date of Substantial Completion.

- b. Provide a lifetime of building warranty covering replacement of cylinder housing.

1.05 QUALIFICATIONS

- A. Hardware Supplier: Company specializing in supplying commercial door hardware with minimum five years documents experience.
- B. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

1.06 COORDINATION

- A. Coordinate work of the Section with other directly affected Sections involving manufacturer of internal reinforcement and preparations for hardware.
- B. Furnish templates for door and frame preparation.
- C. Coordinate Owner's keying requirement during the course of the Work.

1.07 MAINTENANCE SERVICE

- A. Provide maintenance tool and accessories supplied by hardware component manufacturer as needed for the Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

1.08 DELIVERY, STORAGE, AND PROTECTION

- A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

1.09 SECTION REQUIREMENTS

- A. Submittals: Hardware schedule and keying schedule.
- B. Deliver keys to Owner.

PART 2 - PRODUCTS

2.01 HARDWARE

- A. Manufacturers: Provide products from manufacturers listed below or equivalent products from Stanley, Hager, McKinney, Sargent or NGP.

1.	Hinges:	Ives - Architectural grade hinges
2.	Locksets and Latchsets:	Schlage AL-Series
3.	Closers:	LCN 4040 Series
4.	DoorPull:	Ives - 8190
5.	Push Bar:	Ives - 9100
6.	Pull Plates:	Ives - 8300 Series, 4" x 16"
7.	Wall Stops:	Ives - WS407CCV Series
8.	Floor Stops:	Ives - FS436 or FS438, Provide Risers Where Required
9.	Dust Proof Strikes:	Ives - DP2
10.	Door Silencers:	Ives - SR65
11.	StrikeGuards:	Ives - LG10
12.	Weather stripping:	Reese - 403D
13.	Sweep:	Reese - 603D
14.	Threshold:	Reese - S472A, Reese S482AS

- B. Hinges: ANSI/BHMA A156.1 certified butt hinges.

- 1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
 - c. Continuous hinge on all doors over 3'-0" wide.
 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges.
 4. Hinge Options: Comply with the following.
 - a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
 - 1) Out-swinging exterior doors.
 - 2) Out-swinging access controlled doors.
 - 3) Out-swinging lockable doors.
 - b. Acceptable Manufacturers:
 - 1) Hager Companies (HA).
 - 2) McKinney Products (MK).
 - 3) Stanley Hardware (ST).
 5. Hinges: Non-ferrous material for all exterior doors, and per drawings for interior doors.
- C. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cutouts.
1. Acceptable Manufacturers:
 - a. McKinney Products (MK).
 - b. Pemko Manufacturing (PE).
- D. Locksets and Latchsets:
1. ANSI A156.2. Grade 2 (Medium Duty) for AL series cylindrical locks.
 2. Lever handles on locksets and latchsets, Per drawings.
 3. Provide trim on exit devices matching locksets.
 4. Backset
 - a. 2-3/8" Residential
 - b. 2-3/4" Commercial
 5. Provide wrought boxes for strikes.
- E. Key locks:
1. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
 2. Cylinders with six-pin multi-level master key system comprised of patented controlled keys and security and high security cylinders operated by one key of the highest level.
 - a. Level 3 Cylinders: Provide utility patented controlled keyway and side bar locking incorporating unique angled bottom pins for geographical exclusivity. Cylinders to be UL437 certified and constructed to provide protection against bumping, picking, and drilling.
 3. Provide cylinders for aluminum storefront doors.
 4. Re-key all locks after final inspection per Architect's direction.
 5. Provide two keys per cylinder.
- F. Closers:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
 2. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
 3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
 4. Construction: Full rack and pinion with a cold headed heat-treated steel spindle and a sintered steel piston precision machined and heat treated.
 5. Piston and spring bores: Minimum 1 1/2 inch diameter. Closers with smaller bores are not acceptable.
 6. Closer case: Close grained, porous free cast iron of one piece construction.
 7. Valves: Separate tamper resistant, non-critical regulating screw valves for back check, latching and closing speed. Provide a separate additional valve for delayed action closers. Valves to be accessible without removing the closer from the door.
 8. Backcheck: Provide with an adjustable backcheck intensity valve with a safety feature that automatically relieves internal pressure when backcheck has reached the desired adjustment level.
 9. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in drawings.
 - a. Where closers are indicated to have mechanical dead-stop, provide heavy duty arms and brackets with an integral positive stop.
 - b. Where closers are indicated to have mechanical hold open, provide heavy duty units with an additional built-in mechanical holder assembly designed to hold open against normal wind and traffic conditions. Holder to be manually selectable to on-off position.
 - c. Where closers are indicated to have a cushion-type stop, provide heavy duty arms and brackets with spring stop mechanism to cushion door when opened to maximum degree.
 10. Mount closers on interior side (room side) of door opening. Provide regular-arm, parallel-arm, top-jamb-mounted closers as necessary or other accessories as required for proper mounting.
 11. Adjustable delayed opening (accessible to people with disabilities) feature on closers.
 12. Adjust closer to limit door Swing from hitting adjacent walls.
- G. Door Stops:
1. Provide wall stops or floor stops for doors without closers.
 - a. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 2. Provide risers for floor stops as required.
 3. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
- H. Architectural seals

1. General: Thresholds, weather stripping, and gasket seals to be of type and design as specified below. Provide continuous weather strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
 2. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
 3. Thresholds:
 - a. Hardware supplier shall verify finish floor conditions and coordinate proper threshold as required to insure a smooth transition between threshold and interior floor finish.
 - b. Typically a thermally broken saddle threshold equivalent to Reese 4S472A shall be used between the Exterior and VCT, Sheet Vinyl or Sealed Concrete floor finishes.
- I. Lock And Latch Strikes
1. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match drawings, unless otherwise indicated, and as follows:
 - a. Flat-Lip Strikes: For locks with three-piece antifriction latch bolts, as recommended by manufacturer.
 - b. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - c. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
 2. Standards: Comply with the following:
 - a. Strikes for Bored Locks and Latches: BHMA A156.2.
 - b. Strikes for Auxiliary Deadlocks: BHMA A156.5.
 - c. Dustproof Strikes: BHMA A156.16.
- J. Conventional Exit Devices
1. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
 - a. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including hex nuts and bolts at openings.
 - b. Provide exit devices with hex key dogging device to hold the push bar and latch in a retracted position. Provide optional keyed cylinder dogging on devices.
 - c. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is not acceptable except in any case where the door light extends behind the device as in a full glass configuration.
 - d. Flush End Caps: Provide heavy weight impact resistant flush end caps made of architectural metal in the same finish as the devices. Plastic end caps will not be acceptable.
 - e. Narrow Stile Applications: At doors constructed with narrow stiles provide devices designed for maximum 2" wide stiles.
 - f. Rail Sizing: Provide exit device rails factory sized for proper door width application.
- K. Touch bar exit devices: ANSI A156.3, Grade 1, push rail design, surface mounted type, closed on all sides and sized to accommodate various door widths, and listed by Underwriters Laboratories and bearing the UL label for life safety in full compliance with NFPA 80 and NFPA 101. Provide operating function with free-wheeling lever handle

operation - no knob or thumb piece operation.

1. Devices used on fire labeled doors: Listed for A Label and lesser class doors.
2. Panic listing: Listed by Underwriters Laboratories for safety as panic hardware.
3. Positive pressure requirements: Comply with UL10C.
4. Chassis: Cold forged steel, electroplated for corrosion resistance, and be architecturally finished brass, bronze or stainless steel.
5. Bearings: Nylon.
6. Springs: Stainless steel torsion springs.
7. Pushpad mechanism: Constructed of extruded aluminum and scalped with architecturally finished brass, bronze, or stainless steel. The maximum projection to be 3 1/4 inches when the pushpad is active, and 2 3/4 inches when the pushpad is dogged down.
8. Rear and active case covers: Wrought brass or bronze, plated to match exit bar.
9. Latchbolts: Steel with a deadlocking latch for increased security. Devices without deadlocking latches are not acceptable.
10. Provide concealed mounting screws.
11. Through-bolt trims with concealed fasteners.
12. Cycle testing: A minimum of 3,000,000 cycles, witnessed and verified by an independent third party testing lab.

L. Fabrication

1. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

M. Finishes

1. Standard: Designations used in the drawings and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
2. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
3. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.02 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

3.03 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Use templates provided by hardware item manufacturer.
- C. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for

- Architectural Hardware for Standard Steel Doors and Frames."
2. Where indicated to comply with accessibility requirements, comply with 2010 ADA Standards.
 3. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.
- 3.04 FIELD QUALITY CONTROL**
- A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.
- 3.05 ADJUSTING**
- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
- B. Final hardware adjustment: Adjust door control devices to compensate for final operation of HVAC equipment.
- C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.
- 3.06 CLEANING AND PROTECTION**
- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.
- 3.07 DEMONSTRATION**
- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

END OF SECTION 08 71 00

SECTION 08 80 00

GLAZING

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 - 1. Windows.
 - 2. Doors.
 - 3. Glazed entrances.
 - 4. Storefront framing.

1.02 PERFORMANCE REQUIREMENTS

- A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

1.03 SUBMITTALS

- A. Product Data: For each glass product and glazing material indicated.
- B. Glazing Schedule: Use same designations indicated on Drawings for glazed openings in preparing a schedule listing glass types and thicknesses for each size opening and location.
- C. Product Certificates: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.
- D. Warranties: Special warranties specified in this Section.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Source Limitations for Clear Glass: Obtain clear float glass from one primary-glass manufacturer.
- C. Source Limitations for Tinted Glass: Obtain tinted, heat-absorbing, and light-reducing float glass from one primary-glass manufacturer for each tint color indicated.
- D. Source Limitations for Insulating Glass: Obtain insulating-glass units from one manufacturer using the same type of glass and other components for each type of unit indicated.
- E. Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.
- F. Fire-Rated Window Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 257.
- G. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201 and ANSI Z97.1.
 - 1. Subject to compliance with requirements, permanently mark safety glass with certification label of Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1.06 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
 - 1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 deg F.

1.07 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Manufacturer's Special Warranty on Coated-Glass Products: Written warranty, made out to Owner and signed by coated-glass manufacturer agreeing to furnish replacements for those coated-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
 - 1. Warranty Period: 10 years from date of Substantial Completion.
- C. Manufacturer's Special Warranty on Insulating Glass: Written warranty, made out to Owner and signed by insulating-glass manufacturer agreeing to furnish replacements for insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PRODUCTS AND MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products indicated.
- B. Acceptable Manufacturers/Fabricators:
 - 1. Cardinal
 - 2. Manko
 - 3. PPG Industries

2.02 GLASS PRODUCTS, GENERAL

- A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.
 - 1. Minimum Glass Thickness for Exterior Lites: Not less than 1/4 inch.
- B. Strength: Where float glass is indicated, provide annealed float glass, Kind HS heat-treated float glass, or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened glass is indicated, provide Kind HS heat treated float glass or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.
- C. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
 - 1. For laminated-glass lites, properties are based on products of construction indicated.
 - 2. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
 - 3. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F.
 - 4. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
 - 5. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.03 GLASS PRODUCTS

- A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.
- B. Heat-Treated Float Glass: ASTM C 1048; Type I; Quality-Q3; Class I (clear) unless otherwise indicated; of kind and condition indicated.
 - 1. For uncoated glass, comply with requirements for Condition A.
 - 2. For coated vision glass, comply with requirements for Condition C (other coated glass).

2.04 WIRED GLASS

- A. Wired Glass: ASTM C 1036, Type II (wired glass, flat), Class 1 (clear), Quality q8 (glazing); 6.4 mm thick; of form and mesh pattern indicated below:
 - 1. Polished Wired Glass: Form 1 (wired, polished both sides), and as follows:
 - a. Mesh m2 (square).
- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Polished Wired Glass:
 - a. Ashai Glass Co./Ama Glass Corp.
 - b. Central Glass Co., Ltd.
 - c. Nippon Sheet Glass Co., Ltd.
 - d. Pilkington Glass Ltd.

2.05 TEMPERED GLASS

- A. Tempered Glass: Comply with ASTM C1040 for monolithic tempered glass; 1/4 inch total thickness; clear.

2.06 INSULATING GLASS

- A. Low-E Insulating-Glass Units: One (1) inch thick, preassembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units and with requirements specified in this Article.
 - 1. Description:
 - a. Outdoor Lite: Type 1, transparent, clear, float glass.
 - b. Low Emissivity Coating or Film on second surface.
 - 2. Provide heat-strengthened float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in "Performance Requirements" Article. Provide fully tempered where safety glass is required.
- B. Sealing System: Dual seal, with primary and secondary sealants as follows:
 - 1. Manufacturer's standard sealants.
- C. Spacer Specifications: Manufacturer's standard spacer material and construction.
 - 1. Corner Construction: Manufacturer's standard corner construction.

2.07 FIRE-PROTECTION-RATED GLAZING

- A. Fire-Protection-Rated Glazing, General: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252 for door assemblies and NFPA 257 for window assemblies.

2.08 GLAZING SEALANTS

- A. General:
 - 1. Compatibility: Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
 - 2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
 - 3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

- B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dow Corning Corporation; 790.
 - b. GE Advanced Materials - Silicones; SilPruf LM SCS2700.
 - c. May National Associates, Inc.; Bondaflex Sil 290.
 - d. Pecora Corporation; 890.
 - e. Sika Corporation, Construction Products Division; SikaSil-C990.
 - f. Tremco Incorporated; Spectrem 1.
- C. Glazing Sealants for Fire-Rated Glazing Products: Products that are approved by testing agencies that listed and labeled fire-resistant glazing products with which they are used for applications and fire-protection ratings indicated.

2.09 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tape: Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and non-migrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 - 1. AAMA 804.3 tape, where indicated.
 - 2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
 - 3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.
- B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
 - 1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
 - 2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.10 GLAZING GASKETS

- A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:
 - 1. Neoprene complying with ASTM C 864.
 - 2. EPDM complying with ASTM C 864.
 - 3. Silicone complying with ASTM C 1115.
 - 4. Thermoplastic polyolefin rubber complying with ASTM C 1115.
- B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned neoprene gaskets complying with ASTM C 509, Type II, black; of profile and hardness required to maintain watertight seal.
 - 1. Application: Use where soft compression gaskets will be compressed by inserting dense compression gaskets on opposite side of glazing or pressure applied by means of pressure-glazing stops on opposite side of glazing.

2.11 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- D. Spacers: Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

- E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.
- G. Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire protection rating indicated.

2.12 FABRICATION OF GLASS AND OTHER GLAZING PRODUCTS

- A. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing standard, to comply with system performance requirements.
- B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.
- C. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine framing glazing, with Installer present, for compliance with the following:
 - 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
 - 2. Presence and functioning of weep system if applicable.
 - 3. Minimum required face or edge clearances.
 - 4. Effective sealing between joints of glass-framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.
- B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.03 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated.
- B. Glazing channel dimensions provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.
- C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants.
- E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- G. Provide spacers for glass lites where the length plus width is larger than 50 inches as follows:
 - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
 - 2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to

sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

- H. Provide edge blocking where needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer.
- I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
- J. Set glass lites with proper orientation so that coatings face exterior or interior as specified.
- K. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
- L. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.04 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Where framing joints are vertical, cover these joints by applying tapes to heads and sills first and then to jambs. Where framing joints are horizontal, cover these joints by applying tapes to jambs and then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until just before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.
- G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.05 GASKET GLAZING (DRY)

- A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- D. Install gaskets so they protrude past face of glazing stops.

3.06 PROTECTION AND CLEANING

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkaline deposits, or stains; remove as recommended by glass manufacturer.
- D. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any

- way, including natural causes, accidents, and vandalism, during construction period.
- E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion.
Wash glass as recommended by glass manufacturer.

END OF SECTION 08 80 00

SECTION 09 29 00

GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the following:
 - 1. Interior gypsum board.
 - 2. Tile backing panels.

1.02 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data for each type of product specified.
- C. Include manufacturer's certifications that:
 - 1. Materials meet or exceed specification requirements.
 - 2. Gypsum board, finishing materials and adhesives are domestically manufactured.
 - 3. Sealants are domestically manufactured and are not corrosive to copper and other piping.
- D. Shop drawings: Show locations, fabrication, and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other units of Work.

1.03 QUALITY ASSURANCE

- A. Single-Source Responsibility for Panel Products: Obtain each type of gypsum board and other panel products from a single manufacturer.
- B. Single-Source Responsibility for Finishing Materials: Obtain finishing materials from either the same manufacturer that supplies gypsum board and other panel products or from a manufacturer acceptable to gypsum board manufacturer.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Neatly stack gypsum panels flat to prevent sagging.

1.05 PROJECT CONDITIONS

- A. Environmental Conditions, General: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 requirements or gypsum board manufacturer's recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.01 ASSEMBLY PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

2.02 INTERIOR GYPSUM BOARD PRODUCTS

- A. General: Provide gypsum board of types indicated in maximum lengths available that will minimize end-to-end butt joints in each area indicated to receive gypsum board

application.

1. Widths: Provide gypsum board in widths of 48 inches.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. American Gypsum.
 2. CertainTeed Corp.
 3. Georgia-Pacific Gypsum LLC.
 4. Lafarge North America Inc.
 5. National Gypsum Company.
 6. PABCO Gypsum.
 7. Temple-Inland.
 8. USG Corporation.
- C. Gypsum Wallboard: ASTM C 1396.
 1. Thickness: 5/8 inch.
 2. Long Edges: Tapered.
- D. Gypsum Board, Type X: ASTM C 1396.
 1. Thickness: 5/8 inch.
 2. Long Edges: Tapered.
- E. Flexible Gypsum Board: ASTM C 1396. Manufactured to bend to fit radii and to be more flexible than standard regular-type gypsum board of same thickness.
 1. Thickness: 1/4 inch.
 2. Long Edges: Tapered.
- F. Gypsum Ceiling Board: ASTM C 1396.
 1. Thickness: 5/8 inch.
 2. Long Edges: Tapered.

2.03 SPECIALTY GYPSUM BOARD

- A. Ceiling Gypsum Board, Type C: ASTM C 1396. Manufactured to have increased fire-resistive capability.
 1. Products: Subject to compliance with requirements, provide the following provide one of the following:
 - a. American Gypsum; Firebloc Type C.
 - b. CertainTeed Corp.; ProRoc Type C.
 - c. Georgia-Pacific Gypsum LLC; Fireguard C.
 - d. Lafarge North America Inc.; Firecheck Type C.
 - e. National Gypsum Company; Gold Bond Fire-Shield C.
 - f. PABCO Gypsum; Flame Curb Type Super C.
 - g. Temple-Inland; Type TG-C.
 - h. USG Corporation; Firecode C Core.
 2. Thickness: As required by fire-resistance-rated assembly indicated on Drawings.
 3. Long Edges: Tapered.

2.04 TILE BACKING PANELS

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Glass-Mat, Water-Resistant Backing Board: ASTM C 1178, with manufacturer's standard edges
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CertainTeed Corp.; GlasRoc Tile Backer.
 - b. Georgia-Pacific Gypsum LLC; DensShield Tile Backer.
 2. Core: 1/2 inch, regular type or 5/8 inch, Type X, as indicated.
 3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
- C. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or 1325, with manufacturer's

standard edges.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. C-Cure; C-Cure Board 990.
 - b. CertainTeed Corp.; FiberCement BackerBoard.
 - c. Custom Building Products; EasyBoard.
 - d. FinPan, Inc.; EZ Backer.
 - e. James Hardie Building Products, Inc.; Hardiebacker 500.
 - f. National Gypsum Company, Permabase Cement Board.
 - g. USG Corporation; DUROCK Cement Board.
 2. Thickness: 5/8 inch.
 3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
- D. Water-Resistant Gypsum Backing Board: ASTM C 1396, with manufacturer's standard edges.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Gypsum.
 - b. CertainTeed Corp.
 - c. Georgia-Pacific Gypsum LLC.
 - d. Lafarge North America Inc.
 - e. PABCO Gypsum.
 - f. Temple-Inland.
 - g. USG Corporation.
 2. Core: 5/8 inch, Type X.

2.05 TRIM ACCESSORIES

- A. Accessories for Interior Installation: ASTM C 1047.
1. Material: Formed metal or plastic, with metal complying with the following requirement:
 - a. Steel sheet zinc coated by hot-dip or electrolytic process, or steel sheet coated with aluminum or rolled zinc.
 - b. rolled zinc.
 2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - f. Expansion (control) joint.
 - 1) Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.
 - 2) At a minimum install control joints every 25 feet along a single length of wall.
 - g. Curved-Edge Cornerbead: With notched or flexible flanges.
- B. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fry Reglet Corp.
 - b. Gordon, Inc.
 - c. Pittcon Industries.
 2. Aluminum: Alloy and temper with not less than the strength and durability

properties of ASTM B 221, Alloy 6063-T5.

3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified.

2.06 JOINT TREATMENT MATERIALS

- A. General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.
- B. Joint Tape:
 1. Interior Gypsum Board: Paper reinforcing tape for interior corners, and fiber glass mesh joint tape for flat joints unless otherwise indicated.
 - a. Use pressure-sensitive or, open-weave, glass-fiber reinforcing tape with compatible joint compound where recommended by manufacturer of gypsum board and joint treatment materials for application indicated.
 2. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
 1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
 3. Fill Coat: For second coat, use setting-type, sandable topping compound.
 4. Finish Coat: For third coat, use setting-type, sandable topping compound.
- D. Joint Compound for Tile Backing Panels:
 1. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.07 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass.
 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
 2. Provide full thickness of stud space.
- D. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Accumetric LLC; BOSS 824 Acoustical Sound Sealant.
 - b. Grabber Construction Products; Acoustical Sealant GSC.
 - c. Pecora Corporation; AC-20 FTR.
 - d. Specified Technologies, Inc.; Smoke N Sound Acoustical Sealant.
 - e. USG Corporation; SHEETROCK Acoustical Sealant.
- E. Thermal Insulation: As specified in Section 07 21 00 "Thermal Insulation."
- F. Vapor Barrier: As specified in Section 07 25 00 "Weather Barriers."

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine areas and substrates to which gypsum board assemblies attach or abut, installed hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
 - C. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.02 APPLYING AND FINISHING GYPSUM BOARD, GENERAL**
- A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.
 - B. Install sound-attenuation blankets, where indicated, prior to installing gypsum panels unless blankets are readily installed after panels have been installed on one side.
 - C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
 - D. Install gypsum panels with face side out. Do not install imperfect, damaged, or damp panels. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
 - E. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Avoid joints other than control joints at corners of framed openings.
 - F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch wide joints to install sealant.
 - G. Attach gypsum panels to framing provided at openings and cutouts.
 - H. Form control and expansion joints at locations indicated and as detailed or required for best practice, with space between edges of adjoining gypsum panels, as well as supporting framing behind gypsum panels.
- 3.03 APPLYING INTERIOR GYPSUM BOARD**
- A. Install interior gypsum board in the following locations:
 - 1. Wallboard Type: Vertical surfaces unless otherwise indicated.
 - 2. Type X: Where required for fire-resistance-rated assembly.
 - 3. Flexible Type: Apply in double layer at curved assemblies.
 - 4. Type C: Where required for specific fire-resistance-rated ceiling assembly.
 - B. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - 3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.
 - C. Curved Surfaces:
 - 1. Install panels horizontally (perpendicular to supports) and unbroken, to extent possible, across curved surface plus 12-inch long straight sections at ends of curves and tangent to them.
 - 2. For double-layer construction, fasten base layer to studs with screws 16 inches o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced 12 inches o.c.

3.04 APPLYING TILE BACKING PANELS

- A. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.
- B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.05 INSTALLING TRIM ACCESSORIES

- A. General: For trim accessories with back flanges, fasten to framing with the same fasteners used to fasten gypsum board. Otherwise, fasten trim accessories according to accessory manufacturer's directions for type, length, and spacing of fasteners.
- B. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners.
 - 2. LC-Bead: Use at exposed panel edges.
 - 3. U-Bead: Use at exposed panel edges.
- C. Aluminum Trim: Install in locations indicated on Drawings.
- D. Install control joints according to ASTM C 840 and manufacturer's recommendations and in specific locations approved by Architect for visual effect.

3.06 FINISHING GYPSUM BOARD ASSEMBLIES

- A. General: Treat gypsum board joints, interior angles, flanges of cornerbead, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration.
- B. Prefill open joints, rounded or beveled edges, and damaged areas using setting-type joint compound.
- C. Apply joint tape over gypsum board joints, except those with trim accessories having flanges not requiring tape.
- D. Levels of Gypsum Board Finish: Provide the following levels of gypsum board finish per GA 214-10.
 - 1. Level 5 for gypsum board surfaces receiving gloss and semi-gloss enamels and other surfaces subject to severe lighting, non-textured walls or dark paint.
- E. For Level 5 gypsum board finish, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories. Touch up and sand between coats. After last coat provide a thin skim coat of joint compound, or material manufactured especially for this purpose per section of GA-214. No imperfections visible.

3.07 CLEANING AND PROTECTION

- A. Promptly remove any residual joint compound from adjacent surfaces.
- B. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- C. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- D. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09 29 00

SECTION 09 91 13

EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following exterior substrates:
 - 1. Steel.
 - 2. Cement Board Siding.
 - 3. Concrete/masonry.
 - 4. Galvanized Metal.
 - 5. Wood.
- B. Related Requirements:
 - 1. Division 9 Section "Interior Painting" for surface preparation and the application of paint systems on interior substrates.

1.3 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- E. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches 200 mm square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 1 gal.3.8 L of each material and color applied.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F7 deg C.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F 10 and 35 deg C.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F 3 deg C above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Diamond Vogel Paints.
 - 2. PPG Architectural Finishes, Inc.
 - 3. Sherwin-Williams Company (The).
 - 4. Pratt and Lambert
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include products listed in other Part 2 articles for the paint category indicated.

2.2 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- C. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction and Iowa Green Streets Criteria.
- D. Colors: See drawings.

2.3 PRIMER PRODUCTS (PRODUCT NAMES AND NUMBERS ARE SHERWIN WILLIAMS UNLESS OTHERWISE NOTED)

- A. Masonry and Cement Board: Acrylic, Exterior, White:
 - 1. Basis of Design: Loxon Concrete and Masonry Primer-Sealer
 - 2. Water Vapor Permeance: 25.79 perms when tested according to ASTM D1653
- B. Galvanized Metal: Acrylic, Exterior, White:
 - 1. Basis of Design: Pro Industrial Pro-Cryl Universal Primer
- C. Steel: Polymide Epoxy, White:
 - 2. Basis of Design: Macropoxy 646 Fast Cure Epoxy Mastic
- D. Wood:
 - 1. Basis of Design: Exterior Latex Waterbased Wood Primer.

2.4 WATER-BASED PAINTS (PRODUCT NAMES AND NUMBERS ARE SHERWIN WILLIAMS UNLESS OTHERWISE NOTED)

- A. Latex, Exterior Satin:
 - 1. Primer: Exterior Latex.
 - 2. Secondary Coat: Duration Exterior Acrylic Latex.
 - 3. Final Coat: Duration Exterior Acrylic Latex.

2.5 SOLVENT-BASED PAINTS

A. Alkyd, Exterior, Semi-Gloss (Gloss Level 5):

1. Primer: Enamel Primer.
2. Secondary Coat: Pro Industrial, Industrial Enamel 100.
3. Final Coat: Pro Industrial, Industrial Enamel 100.

2.6 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Wood: 15 percent.
 2. Concrete: 12 percent.
 3. Fiber-Cement Board: 12 percent.
 4. Masonry (Clay and CMUs): 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and

- chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Historic Bronze/Copper/Galvanized Metal: Remove loose paint or substrates that could impair bonds of paint. Generally, patina should remain. Any abrasive method must be approved by Architect in advance.
 - F. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
 - G. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
 - 3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
 - 4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
 - H. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
 - I. Wood Substrates:
 - 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
 - 2. Sand surfaces that will be exposed to view, and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 - 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 - 4. Paint entire exposed surface of window frames and sashes.
 - 5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Crescent Bronze paint system for bronze/copper requires no moisture (dew/rain) and temperatures above 60 degrees F during the entire application process.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by

- washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
 - D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

- A. Concrete: Including cementitious siding, common brick, concrete masonry units, and concrete
 - 1. Latex System:
 - a. Prime Coat: Acrylic masonry primer
 - b. Intermediate Coat: Exterior latex, satin finish
 - c. Topcoat: Same as above
- B. Metal: Aluminum, Galvanized
 - 1. Latex Systems:
 - a. Primer: Acrylic metal primer
 - b. First Coat: Exterior latex, satin finish.
 - c. Topcoat: Exterior latex, satin finish
- C. Metal: Ferrous metals including steel & iron
 - 1. Acrylic Over Epoxy System:
 - a. First Coat: Exterior steel primer.
 - b. Intermediate Coat: Exterior acrylic, satin finish.
 - c. Topcoat: Exterior acrylic, satin finish.
- D. Cement Board Substrates: Including siding and trim.
 - 1. Latex System:
 - a. Prime Coat: Primer for cement board siding.
 - b. Intermediate Coat: Latex, exterior, matching topcoat.
 - c. Topcoat: Latex, exterior satin finish
- E. Wood: Including windows, doors, trim, and siding:
 - 1. Latex System:
 - a. Prime Coat: Exterior latex wood primer
 - b. Intermediate Coat: Exterior latex, satin finish
 - c. Topcoat: same as above

END OF SECTION 09 91 13

SECTION 09 91 23

INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Wood.
 - 2. Gypsum board.
 - 3. Plaster.
- B. Related Requirements:
 - 1. Division 5 Sections for shop priming of metal substrates with primers specified in this Section.
 - 2. Division 6 Sections for shop priming carpentry with primers specified in this Section.
 - 3. Division 8 Sections for factory priming windows and doors with primers specified in this Section.
 - 4. Division 9 painting Sections for high-performance and special-use coatings.
 - 5. Division 9 Section "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.
 - 6. Division 9 Section "Wood Stains and Transparent Finishes" for surface preparation and the application of wood stains and transparent finishes on interior wood substrates.

1.3 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches 200 mm square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- C. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same

- designations indicated on Drawings and in schedules.
- 2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.
- 3. VOC content.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 1 gal. 3.8 L of each material and color applied.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F 7 deg C.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F 10 and 35 deg C.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F 3 deg C above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Benjamin Moore & Co.
 - 2. Diamond Vogel Paints.
 - 3. PPG Architectural Finishes, Inc.
 - 4. Sherwin-Williams Company (The).
 - 5. Pratt and Lambert
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in other Part 2 articles for the paint category indicated.

2.2 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and Iowa Green Streets.
 - 1. Flat Paints and Coatings: 50 g/L.
 - 2. Nonflat Paints and Coatings: 100 g/L.
 - 3. Dry-Fog Coatings: 400 g/L.
 - 4. Primers, Sealers, and Undercoaters: 100 g/L.
 - 5. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
 - 6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
 - 7. Pretreatment Wash Primers: 420 g/L.

- 8. Floor Coatings: 100 g/L.
- 9. Shellacs, Clear: 730 g/L.
- 10. Shellacs, Pigmented: 550 g/L.
- C. Colors: See drawings. Custom colors for matching existing interior finishes as required.
- D. Manufacturers: All paint numbers / names listed reference Sherwin Williams unless otherwise noted.

2.3 PRIMERS/SEALERS

- A. Primer Sealer, Latex, Interior:
 - 1. ProMar 200 wall primer.

2.4 WATER-BASED PAINTS

- A. Latex, Interior, (Gloss Level 3):
 - 1. ProMar 200 interior latex.

2.5 SOLVENT-BASED PAINTS

- A. Alkyd, Quick Dry, Semi-Gloss (Gloss Level 5):
 - 1. ProMar 200 Interior Waterbased Acrylic-Alkyd.

2.6 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
 - 2. Fiber-Cement Board: 12 percent.
 - 3. Masonry (Clay and CMUs): 12 percent.
 - 4. Wood: 15 percent.
 - 5. Gypsum Board: 12 percent.
 - 6. Plaster: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceed that permitted in manufacturer's written instructions.
- E. Wood Substrates:
 - 1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
 - 2. Sand surfaces that will be exposed to view, and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting the following new or repaired work unless noted otherwise, including but not limited to:
 - 1. Wood trim and paneling.
 - 2. Gypsum board and plaster.
 - 3. Other items as directed by Architect.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Wood Substrates:
 - 1. Low-Odor/VOC Latex System:
 - a. Prime Coat: Primer sealer, latex, interior.
 - b. Intermediate Coat: Latex, interior, low odor/VOC matching topcoat.
 - c. Topcoat: Latex, interior, low odor/VOC (Gloss Level 3).
- B. Gypsum Board and Plaster Substrates:
 - 1. Low-Odor/VOC Latex System:
 - a. Prime Coat: Primer sealer, latex, interior.
 - b. Intermediate Coat: Latex, interior, low odor/VOC matching topcoat.
 - c. Topcoat: Latex, interior, low odor/VOC (Gloss Level 3).

END OF SECTION 09 91 23

SECTION 09 99 10

HISTORIC TREATMENT OF PLAIN PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes historic treatment of plain painting as follows:
 - 1. Removing existing paint.
 - 2. Repairing substrates.
- B. Related Requirements:
 - 1. Section 09911 "Exterior Painting"
 - 2. Section 09912 "Interior Painting"

1.2 DEFINITIONS

- A. Modern Paint Materials: Paint materials not designed to match historic paint formulations but that may be required to match historic paint colors.
- B. Plain Painting: For historic treatment, this means painting that requires attention to historic treatment requirements, but no special, decorative or artistic painting skill.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 PREPARATORY CLEANING MATERIALS

- A. Water: Potable.
- B. Hot Water: Water heated to a temperature of 140 to 160 deg F.
- C. Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium pyrophosphate (TSPP), 1/2 cup of laundry detergent that contains no ammonia, 5 quarts of 5 percent sodium hypochlorite bleach, and 15 quarts of warm water for every 5 gal. of solution required.
- D. Mildewcide: Commercial proprietary mildewcide or a job-mixed solution prepared by mixing 1/3 cup of household detergent that contains no ammonia, 1 quart of 5 percent sodium hypochlorite bleach, and 3 quarts of warm water.
- E. Abrasives for Ferrous Metal Cleaning: Aluminum oxide paper, emery paper, fine steel wool, steel scrapers, and steel-wire brushes of various sizes.
- F. Rust Remover: Manufacturer's standard phosphoric acid-based gel formulation, also called "naval jelly," for removing corrosion from iron and steel.

2.2 PAINT REMOVERS

- A. Low-Odor, Solvent-Type Paste Paint Remover: Manufacturer's standard low-odor, water-rinsable, solvent-type paste, gel, or foamed emulsion formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project; and containing no methanol or methylene chloride.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ABR Products, Inc.; ABR Citrus Paint Removers
 - b. Cathedral Stone Products, Inc.; S-301
 - c. Dumond Chemicals, Inc.; Smart Strip.
 - d. EaCo Chem, Inc.; InStrip.
 - e. PROSOCO, Inc.; Enviro Klean SafStrip

3.1 HISTORIC TREATMENT OF PAINTING, GENERAL

- A. Execution of the Work: In treating historic items, disturb them as minimally as possible and as follows:
 - 1. Remove failed coatings and corrosion and repaint.
 - 2. Verify that substrate surface conditions are suitable for painting.
 - 3. Allow other trades to repair items in place and retain as much original material as possible before repainting.
 - 4. Install temporary protective measures to protect historic painted surfaces that shall be treated later.
- B. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use only the gentlest mechanical methods, such as scraping and lightly hand sanding, that will not abrade softer substrates, reducing clarity of detail. Do not use abrasive methods such as rotary sanding, rotary wire brushing, or power tools except as indicated as part of the historic treatment program and as approved by Architect. Follow applicable safety guidelines for the identification of lead bearing finishes. Avoid dry sanding or processes

- that create dust in lead bearing substrates.
- C. Heat Processes: Do not use torches, heat guns, or heat plates without the specific written consent of the general contractor. Do not use on lead bearing surfaces.

3.2 EXAMINATION

- A. Examine substrates and conditions, with historic treatment specialist present, for compliance with requirements for maximum moisture content and other conditions affecting performance of painting work. Comply with paint manufacturer's written instructions for inspection.
- B. Maximum Moisture Content of Substrates: Do not begin application of coatings unless moisture content of exposed surface is below the maximum value recommended in writing by paint manufacturer and not greater than the following maximum values when measured with an electronic moisture meter appropriate to the substrate material:
1. Concrete: 12 percent.
 2. Gypsum Board: 12 percent.
 3. Gypsum Plaster: 12 percent.
 4. Masonry (Clay and CMU): 12 percent.
 5. Portland Cement Plaster: 12 percent.
 6. Wood: 15 percent.
- C. Alkalinity: Do not begin application of coatings unless surface alkalinity is within range recommended in writing by paint manufacturer. Conduct alkali testing with litmus paper on exposed plaster, cementitious, and masonry surfaces.

3.3 PREPARATORY CLEANING

- A. General: Use only the gentlest, appropriate method necessary to clean surfaces in preparation for painting. Clean all surfaces, corners, contours, and interstices.
- B. Detergent Cleaning: Wash surfaces by hand using clean rags, sponges, and bristle brushes. Scrub surface with detergent solution and bristle brush until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet. Rinse with water applied by clean rags or sponges.
- C. Solvent Cleaning: Use solvent cleaning to remove oil, grease, smoke, tar, and asphalt from painted or unpainted surfaces before other preparation work. Wipe surfaces with solvent using clean rags and sponges. If necessary, spot-solvent cleaning may be employed just prior to commencement of paint application, provided enough time is allowed for complete evaporation. Use clean solvent and clean rags for the final wash to ensure that all foreign materials have been removed. Do not use solvents, including primer thinner and turpentine, that leave residue.
- D. Mildew: Clean off existing mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. Rinse with water applied by clean rags or sponges.
- E. Chemical Rust Removal:
1. Remove loose rust scale with approved abrasives for ferrous-metal cleaning.
 2. Apply rust remover with brushes or as recommended in writing by manufacturer.
 3. Allow rust remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing. Do not allow extended dwell time.
 4. Wipe off residue with mineral spirits and either steel wool or soft rags, or clean with method recommended in writing by manufacturer to remove residue.
 5. Dry immediately with clean, soft cloths. Follow direction of grain in metal.
 6. Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.
- F. Mechanical Rust Removal:
1. Remove rust with approved abrasives for ferrous-metal cleaning. Clean to bright

metal.

2. Wipe off residue with mineral spirits and either steel wool or soft rags.
3. Dry immediately with clean, soft cloths. Follow direction of grain in metal.
4. Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.

3.4 PAINT REMOVAL

- A. General: Remove paint where indicated. Where cleaning methods have been attempted and further removal of the paint is required because of incompatible or unsatisfactory surfaces for repainting, remove paint to extent required by conditions.
 1. Protect all adjacent surfaces that are not receiving paint remover.
 2. Brushes: Use brushes that are resistant to chemicals being used.
 - a. Metal Substrates: If using wire brushes on metal use brushes of same metal composition as metal being treated.
 - b. Wood Substrates: Do not use wire brushes.
 3. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that spray methods do not damage surfaces.
 - a. Equip units with pressure gages.
 - b. Unless otherwise indicated, hold spray nozzle at least 6 inches from surface and apply material in horizontal, back-and-forth sweeping motion, overlapping previous strokes to produce uniform coverage.
 - c. For chemical spray application, use low-pressure tank or chemical pump suitable for chemical indicated, equipped with nozzle having a cone-shaped spray.
 - d. For water-spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
 - e. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F at flow rates indicated.
- B. Paint Removal with Hand Tools: Remove paint manually using hand-held scrapers, wire brushes, sandpaper, and metallic wool as appropriate for the substrate material. Do not use other methods except as indicated as part of the historic treatment program and as approved by Architect.
- C. Paint Removal with Low-Odor, Solvent-Type Paste Paint Remover:
 1. Remove loose and peeling paint using water, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
 2. Apply thick coating of paint remover to dry, painted surface with natural-fiber cleaning brush, deep- nap roller, or large paintbrush. Apply in one or two coats according to manufacturer's written instructions.
 3. Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.
 4. Rinse with cold or hot water applied by low or medium-pressure spray to remove chemicals and paint residue as recommended by the material manufacturer. Vary temperature and pressure according manufacturer's recommendations or in no recommendation is made begin with cold water on the lowest possible pressure and increase water temperature. Only after hot water is found to be ineffective should the water pressure be increased.
 5. Use mechanical methods recommended in writing by manufacturer to remove chemicals and paint residue.
 6. Repeat process if necessary to remove all paint.

3.5 PAINT APPLICATION, GENERAL

- A. Prepare surfaces to be painted according to the Surface-Preparation Schedule and with manufacturer's written instructions for each substrate condition.
- B. Apply a transition coat over incompatible existing coatings.
- C. Metal Substrate: Stripe paint corners, crevices, bolts, welds, and sharp edges before applying full coat. Apply two coats to surfaces that are inaccessible after completion of

- the Work. Tint stripe coat different than the main coating and apply with brush.
- D. Blending Plain Painted Surfaces: When painting new substrates patched into existing surfaces or touching up missing or damaged finishes, apply coating system specified for the specific substrate. Apply final finish coat over entire surface from edge to edge and corner to corner.

END OF SECTION 09 99 10

SECTION 26 05 00

COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

- A. Structural Performance: Design, engineer, fabricate, and install hangers and supports to withstand structural loads specified in "Project Conditions" Paragraph below.
- B. Submittals:
 - 1. Product Data: For sleeve seals and floor boxes including color options.
- C. Electrical Contractor must be present for the pre-bid meeting and become completely familiar with the project before submitting bid and for bid to be accepted. Change order requests due to insufficient knowledge of the project will not be accepted or approved.
- D. Electrical contractor shall run all conductors and cables in raceways as specified.
- E. Warrantee information must be submitted with bid.

PART 2 - PRODUCTS

2.01 RACEWAYS

- A. Raceways:
 - 1. EMT: ANSI C80.3, zinc-coated steel, with set-screw or compression fittings.
 - 2. ENT: NEMA TC 13, complying with UL 1653.
 - 3. FMC: Zinc-coated steel.
 - 4. IMC: ANSI C80.6, zinc-coated steel, with threaded fittings.
 - 5. LFMC: Zinc-coated, flexible steel with sunlight-resistant and mineral-oil-resistant plastic jacket.
 - 6. RMC: ANSI C-80.1, Hot Dip Galvanized, with threaded fittings meeting Federal Specification WW-C-581E.
 - 7. RNC: NEMA TC 2, Type EPC-40-PVC, with NEMA TC3 fittings.
 - 8. Raceway Fittings: Specifically designed for raceway type used in Project.
- B. Wireways: Sheet metal sized and shaped, with screw covers.
- C. Surface Raceways:
 - 1. Metal: Galvanized steel with snap-on covers. Manufacturer's standard enamel finish in color selected by the Architect.
 - 2. Plastic: PVC, extruded and fabricated to size and shape indicated, with snap-on cover and mechanically coupled connections with plastic fasteners.
- D. Floor Boxes: Two Gang Non-Metallic, Rectangular floor boxes with carpet flange equivalent to Carlon #E976RFB with #E9762 cover. Color to be selected by the Architect.

2.02 CONDUCTORS AND CABLES

- A. Conductors:
 - 1. Conductors, No. 10 AWG and Smaller: Solid or stranded copper.
 - 2. Conductors, Larger than No. 10 AWG: Stranded copper.
 - 3. Insulation: Thermoplastic, rated at 167 degree F minimum.
 - 4. Wire Connectors and Splices: Units of size, ampacity rating, material, type, and class suitable for service indicated.
- B. Cable Type NM-B Cable: Comply with UL 719 with Type THHN/THWN conductors complying with UL 83.
- C. Cable Type SEU: Comply with UL 854 with Type THHN/THWN conductors complying with UL 83.
- D. Cable Type UF-B: Comply with TJB 493 with Type THHN/THWN conductors complying with UL 83.
- E. Note that MC Cable will not be accepted except for use as whips from light fixtures to outlets boxes. Whips shall not exceed 60" in length.

2.03 GROUNDING MATERIALS

- A. Conductors: Solid for No. 8 AWG and smaller, and stranded for No. 6 AWG and larger unless otherwise indicated.

1. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
2. Bare, Solid-Copper Conductors: Comply with ASTM B 3.
3. Bare, Stranded-Copper Conductors: Comply with ASTM B 8.
- B. Ground Rods: Copper-clad steel, sectional type; 5/8 by 96 inches in diameter.
- C. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts with clamp-type pipe connectors sized for pipe.
- D. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

2.04 ELECTRICAL IDENTIFICATION MATERIALS

- A. Raceway Identification Materials: Self-adhesive, color-coding vinyl tape; flexible, preprinted, self-adhesive vinyl.
- B. Conductor Identification Materials: Color-Coding Conductor Tape: Self-adhesive vinyl tape 1 to 2 inches wide.
- C. Underground-Line Warning Tape: Permanent, bright-colored, continuous-printed, polyethylene tape with continuous metallic strip or core.
- D. Tape Markers for Wire: Vinyl or vinyl-cloth, self-adhesive, wraparound type with circuit identification legend machine printed by thermal transfer or equivalent process.
- E. Self-Adhesive Warning Labels: Factory printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.
- F. Metal-Backed, Butyrate Warning Signs: Weather-resistant, non-fading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch galvanized-steel backing; and with colors, legend, and size required for application.
- G. Equipment Identification Labels: Engraved, laminated acrylic or melamine label; punched or drilled for screw mounting. White letters on a dark-gray background; red letters for emergency systems.
- H. Fasteners: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

2.05 SUPPORT AND ANCHORAGE COMPONENTS

- A. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed under this Project, with a minimum structural safety factor of five times the applied force.
- B. Steel Slotted Support Systems: Comply with MFMA-3, factory-fabricated components for field assembly, and provide finish suitable for the environment in which installed.
 1. Channel Dimensions: Selected for structural loading.
- C. Raceway and Cable Supports: As described in NECA 1.
- D. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and fittings.
- E. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded malleable-iron body and insulating wedging.
- F. Structural Steel for Fabricated Supports and Restraints: ASTM A 36, steel plates, shapes, and bars; black and galvanized.
- G. Mounting, Anchoring, and Attachment Components:
 1. Powder-Actuated Fasteners: Threaded-steel stud.
 2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened Portland cement concrete.
 3. Concrete Inserts: Steel or malleable-iron, slotted-support-system units similar to MSS Type 18; complying with MFMA-3 or MSS SP-58.
 4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element
 5. Through Bolts: Structural type, hex head, high strength; complying with ASTM A 325.
 6. Toggle Bolts: All-steel springhead type.

7. Hanger Rods: Threaded steel.

2.06 SLEEVES FOR RACEWAYS AND CABLES

- A. Steel Pipe Sleeves: ASTM A 53 Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. PVC Pipe Sleeves: Schedule 80 PVC with plain ends in concrete and masonry interior walls and walls above grade.
- D. Pre-Molded HDPE Pipe Sleeves: Equivalent to Century-Line Pipe Penetration Sleeve in exterior walls below grade.
- E. Sleeves for Rectangular Openings: Galvanized-steel sheet.
 1. Minimum Metal Thickness:
 - a. For sleeve cross-section rectangle perimeter less than 50 inches and no side more than 16 inches, thickness shall be 0.052 inch.
 - b. For sleeve cross-section rectangle perimeter equal to, or more than, 50 inches and 1 or more sides equal to, or more than, 16 inches, thickness shall be 0.138 inch.
- D. Sleeve Seals: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
 1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
 2. Pressure Plates: Plastic or Stainless steel. Include two for each sealing element.
 3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element

2.07 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, non-staining, mixed with water to consistency suitable for application and a 30-minute working time.

2.08 SILICONE SEALANTS

- A. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below.
 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.
 2. Sealant shall have VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 3. Sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- B. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

PART 3 - EXECUTION

3.01 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- B. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- D. Right of Way: Give to piping systems installed at a required slope.

- E. Securely fasten and support electrical components and devices.
- F. All devices installed in the ceiling grid shall be centered on the tile. Corridor devices shall be mounted in a straight line.
- G. Make electrical connections in accordance with equipment manufacturer's instructions.
- H. See all Drawings and contract documents, including Division 21, 22, and 23 for mechanical schedules, for additional installation requirements.
- I. All wiring shall be installed in conduit unless otherwise noted and of a type allowed by the contract documents. All conduits shall be concealed unless otherwise noted.
- J. In general, the electrical loads shall be circuited as shown on the Drawings. If the Division 26 contractor modifies the circuiting, and can meet all the requirements of the contract documents, then it shall be allowed to be different from that shown. If changes are made, ensure that these changes are shown on the as-built drawings.
- K. Conduit routing is not shown on the Drawings. Circuit number is shown by fixtures. It is the Contractor's responsibility to provide required wire count and conduit sizing for complete and operating systems. Coordinate conduit routing on site with other disciplines. Base final installation of raceways on actual dimensions and conditions at project site.
- L. All devices/equipment in fire rated ceiling spaces and walls shall be installed in such a manner as to retain fire rating as required. All penetrations of fire rated floors or walls shall be protected by materials and installation details that conform to Underwriter Laboratories Listings for through penetration fire stop systems.

3.02 GENERAL ELECTRICAL EQUIPMENT INSTALLATION REQUIREMENTS

- A. Install electrical equipment to allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
- B. Install electrical equipment to provide for ease of disconnecting the equipment with minimum interference to other installations.
- C. Install electrical equipment to allow right of way for piping and conduit installed at required slope.
- D. Install electrical equipment to ensure that connecting raceways, cables, wireways, cable trays, and busways are clear of obstructions and of the working and access space of other equipment.
- E. Install required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.
- F. Install sleeve and sleeve seals of type and number required for sealing electrical service penetrations of exterior walls.
- G. Comply with NECA 1.

3.03 RACEWAY AND CABLE INSTALLATION

- A. Outdoor Raceways Applications:
 - 1. Exposed or Concealed: RMC or IMC.
 - 2. Underground, Single Run: RNC.
 - 3. Connection to Vibrating Equipment: LFMC. Limit lengths to 60" or less.
 - 4. Boxes and Enclosures: Metallic, NEMA 250, Type 3R or Type 4.
- B. Indoor Raceways Applications:
 - 1. Exposed or Concealed: EMT.
 - 2. Connection to Vibrating Equipment: FMC; in wet or damp locations, use LFMC. Limit lengths of FMC or LFMC to 60 inches or less.
 - 3. Damp or Wet Locations: IMC.
 - 4. Boxes and Enclosures: Metallic, NEMA 250, Type 1, unless otherwise indicated.
- C. Conceal raceways and cables, unless otherwise indicated, within finished walls, ceilings, and floors.
- D. Install raceways and cables at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Locate horizontal raceway runs above water and steam piping.
- E. Raceways Under Concrete Slabs:
 - 1. All raceways under concrete floor slabs, or sidewalks shall be placed a minimum

- of 4 inches below underside of slab.
 - 2. All raceways shall be covered with a minimum of 4 inches of crushed stone or gravel.
 - 3. Electrical contractor shall protect all raceways from damage and replace any conduits that become damaged.
 - 4. Electrical contractor shall verify that all under slab conduits are clear and undamaged prior to the placement of concrete.
- F. Install pull wires in empty raceways.
- G. Connect motors and equipment subject to vibration, noise transmission, or movement with a 60 inch maximum length of flexible conduit.
- H. Install raceways and cables conceal within finished walls, ceilings, and floors unless otherwise indicated.

3.04 WIRING METHODS

- A. Service Entrance: Type THHN-THWN, single conductors in raceway.
- B. Exposed Feeders, Branch Circuits, and Class 1 Control Circuits, Including in Crawlspace: Type THHN-THWN, single conductors in raceway.
- C. Feeders and Branch Circuits Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-THWN, single conductors in raceway.
- D. Feeders and Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and underground: Type THHN-THWN, single conductors in raceway.
- E. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, and strain relief device at terminations to suit application.
- F. Class 2 Control Circuits: Type THHN-THWN, in raceway.

3.05 INSTALLATION OF HANGERS AND SUPPORTS

- A. Fasten hangers and supports securely in place, with provisions for thermal and structural movement. Install with concealed fasteners unless otherwise indicated.
- B. Separate dissimilar metals and metal products from contact with wood or cementitious materials, by painting each metal surface in area of contact with a bituminous coating or by other permanent Separation.
- C. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- D. Multiple Raceways or Cables: Install on trapeze-type supports fabricated with steel slotted channel.
- E. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- F. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods, unless otherwise indicated or required by Code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.
 - 5. To Steel: Welded threaded studs complying with AWS D1.1, with lock washers and nuts or Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.
 - 6. To Light Steel: Sheet metal screws.
 - 7. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount on slotted-channel racks attached to substrate.
- G. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.06 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.
- B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls, before concrete is poured in place.
- C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- E. Cut sleeves to length for mounting flush with both surfaces of walls.
- F. Extend sleeves installed in floors 2 inches above finished floor level.
- G. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway or cable, unless indicated otherwise.
- H. Seal space outside of sleeves with grout for penetrations of concrete and masonry
 - 1. Promptly pack grout solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect grout while curing.
- I. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Division 07 Section "Joint Sealants."
- J. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials.
- K. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.
- L. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- M. Underground, Exterior-Wall Penetrations: Install Schedule 80 PVC rigid pipe sleeves. Install cast-iron pipe sleeves. Size sleeves to allow for 1-inch annular clear space between raceway or cable and sleeve for installing mechanical sleeve seals.

3.07 SLEEVE-SEAL INSTALLATION

- A. Install to seal exterior wall penetrations.
- B. Use type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.08 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.09 DEMOLITION

- A. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.
- B. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety. Remove all unused cabling not labeled for future use.
- C. Abandoned Work: Cut and remove buried raceway and wiring, indicated to be abandoned in place, 2 inches below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
- D. Remove demolished material from Project site. Recycle all materials per Construction Waste Management Specification 01 74 19.
- E. Remove, store, clean, reinstall, reconnect, and make operational components indicated

- for relocation.
- F. Contractor shall visit existing building before submitting bid and become familiar with existing conditions.
 - G. In general, wiring in existing building shall remain as is except as noted on drawings or specified elsewhere. When existing walls, ceilings, floors, electrical panels, light fixtures, switches or other outlets are removed, Contractor shall extend existing circuiting, if required, install junction boxes in walls, ceilings or floors, if required, to continue circuiting; remove all unused wire; remove all unused conduit where accessible; and install new plates with blank gangs as required on existing outlet boxes.
 - H. Added loads to existing circuiting shall be balanced between phases. On existing panelboards where circuitry is changed, this Contractor shall furnish a revised, typed panel directory.
 - I. Contractor shall assume in his/her bid that all existing equipment and fixtures noted to be reused are in good working condition and can be installed without any repairs. If certain items are found to be in need of repair or in unusable condition, Contractor shall notify the A/E for decision; however, Contractor shall be responsible for any damage caused by him/her to equipment in removal or handling.
 - J. Fixtures and other equipment removed and to be re-used shall be cleaned before reinstallation. New lamps shall be provided for all fixtures.
 - K. Any existing switches or receptacles that are relocated shall be replaced with new device.
 - L. Existing equipment removed and not re-used, at owner's option, shall be returned to owner. If owner does not wish to keep the items, they shall become the Contractor's property and be removed from the site, unless otherwise specified or shown.
 - M. Contractor shall work closely with the Telephone Company to coordinate removal or relocation of all telephone conduit and outlets. Provide Telephone Company minimum of 48 hours notice of any demolition affecting telephone services or equipment.
 - N. The Owner will be occupying the existing building during construction. Contractor shall provide any temporary connections necessary to maintain services to the existing service. Provide advance notice of minimum 72 hours to the Owner of any temporary service outages. Advance notice shall be in writing with copies to the A/E.
 - O. Demolition shown on plans is based on information shown on Owner's existing plans and an onsite review of the facility. Quantities, types, and locations of items shown are believed to be accurate. However, this contractor shall be responsible for removing and/or relocating electrical equipment as required to accommodate remodeling.
 - P. In general, Contractor shall assume that all work which involves a service outage to areas occupied by the Owner or other building tenants shall be performed on an overtime basis. Work shall continue until service is restored.
 - Q. Provide generator backup for any downtime.
 - R. Coordinate all work with the Power Company for revisions to the electrical service.

3.10 CUTTING AND PATCHING

- A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved. Any cutting or drilling shall not affect structural integrity. Contractor shall contact A/E prior to drilling through any structural beam. No such cutting or drilling process shall endanger the structure integrity of the building.
- B. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing firestopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

3.11 REFINISHING AND TOUCHUP PAINTING

- A. Refinish and touch up paint. Paint materials and application requirements are specified in Division 9 Section "Painting."
 - 1. Clean damaged and disturbed areas and apply primer, intermediate, and finish coats to suit the degree of damage at each location.

2. Follow paint manufacturer's written instructions for surface preparation and for timing and application of successive coats.
3. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
4. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

3.12 CLEANING AND PROTECTION

- A. On completion of installation, including outlets, fittings, and devices, inspect exposed finish. Remove burrs, dirt, paint spots, and construction debris.
- B. Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

END OF SECTION 26 05 00

SECTION 26 09 23

LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Quality Assurance: Lighting control devices shall be listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 DEVICES

- A. Line-Voltage Surge Protection: An integral part of the lighting control devices for 120- and 277-V solid-state equipment. For devices without integral line-voltage surge protection, field-mounting surge protection shall comply with IEEE C62.41 and with UL 1449.
- B. Electronic Time Switches: Intermatic, Inc., Next Generation Time switch or equivalent. Provide contactors as required so that each bank of lights are switched at same time.
 - 1. 12/24 Hour Clock format
 - 2. 99 Holiday Schedules
 - 3. Auto Daylight Savings Time Adjustment
 - 4. (4) Circuit
 - 5. 1,000 + On / Off events
- C. Outdoor Photoelectric Switches: Intermatic, Inc. Stern Mount - Thermal type Photoelectric Switch or equivalent.
 - 1. Light-Level slide adjustment.
 - 2. Time Delay: 30-second minimum, to prevent false operation.
 - 3. Surge Protection: Metal-oxide varistor, complying with IEEE C62.41.1, IEEE C62.41.2, and IEEE 62.45 for Category AI locations.
 - 4. Heavy Duty die cast housing.
- D. Indoor, Wall-Switch Occupancy Sensors:
 - 1. Type: Dual technology (passive infrared and ultrasonic).
 - 2. Voltage: 120/277 V.
 - 3. Time Delay: Adjustable up to 20 minutes.
 - 4. Field of View: 150 degrees.
 - 5. Minimum Coverage Area: 900 sq. ft.
- E. Indoor, PIR Type: detect occupancy by sensing a combination of heat and movement in area of coverage.
 - 1. Detector Sensitivity: Detect occurrences of 6-inch- minimum movement of any portion of a human body that presents a target of not less than 36 sq. in.
 - 2. Detection Coverage (Room): Detect occupancy anywhere in a circular area of 1000 sq. ft. when mounted on a 96-inch- high ceiling.
 - 3. Detection Coverage (Corridor): Detect occupancy within 90 feet when mounted on a 10-foot- high ceiling.
- F. Indoor, Dual-Technology Type: Ceiling mounting; detect occupancy by using a combination of PIR and ultrasonic detection methods in area of coverage. Particular technology or combination of technologies that controls on-off functions shall be selectable in the field by operating controls on unit.
 - 1. Sensitivity Adjustment: Separate for each sensing technology.
 - 2. Detector Sensitivity: Detect occurrences of 6-inch- minimum movement of any portion of a human body that presents a target of not less than 36 sq. in., and detect a person of average size and weight moving not less than 12 inches in either a horizontal or a vertical manner at an approximate speed of 12 inches/s.
 - 3. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. when mounted on a 96-inch high ceiling.

- G. Indoor, Ceiling Mounted Occupancy Sensors:
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. WattStopper; DT-300 Series for single-zone spaces, Wattstopper LMDC-100 series for multi-zone spaces. For occupancy sensors noted as "Corner Mount" basis of design is Wattstopper DT-200.
 - b. Or equivalent by Hubbell, Leviton, Cooper, or Pass & Seymour.
 - 2. Description: Dual technology, with both passive-infrared- and ultrasonic-type sensing, 120/277 V, adjustable time delay up to 30 minutes, 360-degree field of view, isolation relay, and a minimum coverage area of 1000 sq. ft.
 - 3. Low Voltage Momentary Switch: WattStopper: DCC2-W (White) for single zone control, and Wattstopper LMSW series multi-button switches for multi-zone control.
 - 4. Power Pack: WattStopper: BZ-150 for single zone control, and Wattstopper LMRC-210 Series digital room controllers for multi-zone control.
 - 5. System shall turn off lights when occupancy is not detected. Lights shall only come on by manual operation of associated low voltage momentary switch in room.
- H. Indoor Photo Electric Switch: Ceiling-Mounted Photosensor with 0-10 V dimming for Daylight Harvesting:
 - 1. Digital, light-level sensor unit, with separate relay unit (controller), to detect changes in lighting levels that are perceived by the eye. Cadmium sulfide photoresistors are not acceptable.
 - 2. Sensor Output: Contacts rated to operate the associated relay, complying with UL 773A.
 - 3. Sensor shall be powered from the relay (controller) unit. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
 - 4. Light-Level Monitoring Range: 20 to 60 fc (108 to 2152 lx), with an adjustment for dimming within that range.
 - 5. Mounting: Locate photosensor per manufacturer's recommendations.
 - 6. Indicator: Two LEDs to indicate the beginning of on-off cycles.
 - 7. Provide complete operational system with all accessories, options, and cabling.
- I. Lighting Contactors: Electrically operated and electrically held, combination type with non-fused disconnect, complying with NEMA ICS 2 and UL 508.
 - 1. Current Rating for Switching: Listing or rating consistent with type of load served, including tungsten filament, inductive, and high-inrush ballast (ballast with 15 percent or less total harmonic distortion of normal load current).
 - 2. Fault Current Withstand Rating: Equal to or exceeding the available fault current at the point of installation.
 - 3. Enclosure: Comply with NEMA 250.
 - 4. Provide with control and pilot devices as indicated on Drawings, matching the NEMA type specified for the enclosure.
- J. Emergency Shunt Relay: Normally closed, electrically held relay, arranged for wiring in parallel with manual switching contacts; coil rating of 120V; and complying with UL 924.

2.02 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG, complying with Division 26 Section "Common Work Results for Electrical"
- B. Classes 2 and 3 Control Cable: Multi-conductor cable with stranded copper conductors not smaller than No. 18 AWG, complying with Division 26 Section "Common Work Results for Electrical."
- C. Class 1 Control Cable: Multi-conductor cable with stranded copper conductors not smaller than No. 14 AWG, complying with Division 26 Section "Common Work Results for Electrical."
- D. UTP Cable: 100 ohm, 4-pair UTP, formed into 25-pair, binder groups covered with a blue thermoplastic jacket.

1. Comply with ICEA S-90-661 for mechanical properties.
2. Comply with TIA/EIA-568-B.1 for performance specifications.
3. Comply with TIA/EIA-568-B.2, Category 6.
 - a. Multipurpose: MP or MPG.
 - b. Multipurpose, Plenum Rated: Type MPP, complying with NFPA 262.
 - c. Multipurpose, Riser Rated: Type MPR, complying with UL 1666.

PART 3 - EXECUTION

3.01 SENSOR INSTALLATION

- A. Install and aim sensors in locations to achieve not less than 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.
- B. Devices shall be located a minimum of 6 feet from HVAC diffusers. Coordinate with Manufacturer's recommendations.
- C. Wire sensor so it has continuous hot at all times.

3.02 CONTACTOR INSTALLATION

- A. Mount electrically held lighting contactors with elastomeric isolator pads, to eliminate structure borne vibration, unless contactors are installed in an enclosure with factory-installed vibration isolators.

3.03 WIRING INSTALLATION

- A. Wiring Method: Comply with Division 26 Section "Low-Voltage Electrical Power Conductors and Cables." Minimum conduit size shall be 1/2 inch.
- B. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.
- C. Size conductors according to lighting control device manufacturer's written instructions, unless otherwise indicated.
- D. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.04 IDENTIFICATION

- A. Identify components and power and control wiring according to Division 26 Section "Identification for Electrical Systems."
 1. Identify controlled circuits in lighting contactors.
 2. Identify circuits or luminaries controlled by photoelectric and occupancy sensors at each sensor.
- B. Label time switches and contactors with a unique designation.

3.05 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections and prepare test reports:
 1. After installing time switches and sensors, and after electrical circuitry has been energized, adjust and test for compliance with requirements.
 2. Operational Test: Verify operation of each lighting control device, and adjust time delays.
- B. Lighting control devices that fail tests and inspections are defective work.

3.06 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting sensors to suit occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.07 DEMONSTRATION

- A. Coordinate demonstration of products specified in this Section with demonstration requirements for low-voltage, programmable lighting control system specified in Division 26 Section "Network Lighting Controls."
- B. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices. Refer to Division 01 Section "Demonstration and Training."
- C. Program dimming control system with scenes as directed by Owner.

END OF SECTION 26 09 23

SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Quality Assurance: Wiring devices shall be listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 DEVICES

- A. Convenience Receptacles: NEMA WD 1, NEMA WD 6, Configuration 5-20R, and UL 498.
 - 1. Products: Hubbell Style Line Commercial Specification Grade or equivalent.
- B. Duplex GFCI Convenience Receptacles: 125 V, 20 A, straight blade, feed-through type. NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
 - 1. Products: Hubbell Autoguard Commercial Grade or equivalent
- C. Snap Switches: NEMA WD 1 and UL 20. Single-pole, double-throw, momentary contact, center-off switches, 120/277 V, 20 A; for use with mechanically held lighting contactors.
 - 1. Products: Hubbell Style Line Decorator Series Specification grade.
- D. Wall-Box Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EMT/RFI suppression filters.
 - 1. Control: Continuously adjustable slider; with single-pole or three-way switching to suit connections. Comply with UL 1472.
 - 2. LED Dimmers
 - a. Local manual dimmers for LED loads shall be solid state, thin profile, slide type with square law dimming, power failure memory, and gangable with side sections intact. Color shall be white. There shall be no visible screws or fins from the front. Dimmers shall be single location or two location (using standard 3 way wiring) as noted on the Drawings. Dimmers shall be tested and approved for LED loads.
 - 3. Incandescent Lamp Dimmers: 120 V; control shall follow square-law dimming curve. On-off switch positions shall bypass dimmer module.
 - 4. Fluorescent Lamp Dimmer Switches: Modular; compatible with dimmer ballasts; trim potentiometer to adjust low-end dimming; dimmer-ballast combination capable of consistent dimming with low end not greater than 20 percent of full brightness.
- E. Fan Speed Controls: Modular, 120-V, full-wave, solid-state units with integral, quiet on-off switches and audible frequency and EMI/RFI filters. Comply with UL 1917.
 - 1. Continuously adjustable slider, 5 A.
- F. Telephone / Data Outlet: Double RJ-45 jack for terminating 100-ohm, balanced, 4-pair UTP; TIA/EIA-568-B.1; complying with Category 6. Comply with UL 1863.
- G. Combination TV and Telephone Outlet: Single RJ-45 jack for 100-ohm, balanced, 4-pair UTP; TIA/EIA-568-B.1; complying with Category 6; and one Type F coaxial cable connector.
- H. Wall Plates, Finished Areas: Smooth, high-impact thermoplastic, fastened with metal screws having heads matching plate color.
- I. Wall Plates, Unfinished Areas: Smooth, high-impact thermoplastic with metal screws.
- J. Wall Plates, Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in wet locations.
- K. Floor Service Outlets: Carlon Rectangular Floor Boxes #E976RFB with #E9762 Double-Gang Cover / Carpet Flange in color selected by the Architect.
- L. Multi-outlet Assemblies: Components produced by a single manufacturer designed for

use as a complete, matching assembly of raceways and receptacles. Metal, with manufacturer's standard finish raceway with No. 12 AWG wire. One receptacle per 12 inches unless noted otherwise.

M. Colors:

1. Wiring Devices Connected to Normal Power System: Light Almond unless otherwise indicated or required by NFPA 70 or device listing.

N. Labeling:

1. Wiring Devices Connected to Emergency Power System, Dedicated Wiring Devices Connected to Normal Power System and TVSS Devices shall be labeled accordingly with typed self-adhesive vinyl film labels.

PART 3 - EXECUTION

3.01 APPLICATION

- A. Provide outlets as noted on the Drawings and herein described.
- B. Provide GFCI type outlets in all exterior locations.

3.02 INSTALLATION

- A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.
- B. Install devices and assemblies plumb, level, and square with building lines.
- C. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.
- D. Install unshared neutral conductors on line and load side of dimmers.
- E. Mount devices flush, with long dimension vertical, and grounding terminal of receptacles on top unless otherwise indicated. Group adjacent devices under single, multi-gang wall plates.

END OF SECTION 26 27 26

SECTION 26 29 13

ENCLOSED CONTROLLERS

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Coordinate features of controllers and accessory devices with pilot devices and control circuits to which they connect.
- C. Coordinate features, accessories, and functions of each motor controller with ratings and characteristics of the supply circuit, the motor, the required control sequence, and the duty cycle of the motor and lad.

PART 2 - PRODUCTS

2.01 CONTROLLERS AND ACCESSORIES

- A. Manual Controller: NEMA ICS 2, general purpose, Class A with toggle action and overload element, in each phase.
- B. Magnetic Controller: NEMA ICS 2, Class A, full voltage, non-reversing, across the line, unless otherwise indicated; with integral control transformer.
 - 1. Combination Controller: Factory-assembled combination controller and circuit-breaker disconnecting means.
 - 2. Overload Relay: NEMA ICS 2, provide with sensors in each phase matched to nameplate full-load current of specific motor to which they connect, adjusted for duty cycle.
 - 3. Multispeed Controller: Match controller to motor type, application, and number of speeds. Provide with compelling, alternating, and decelerating relays.
 - 4. Push-Button Stations, Pilot Lights, and Selector Switches: NEMA ICS 2, heavy-duty type.
- C. Enclosures: NEMA 250, Type 1 4X and 311.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Select features of each enclosed controller to coordinate with ratings and characteristics of supply circuit and motor; required control sequence; duty cycle of motor, controller, and lad; and configuration of pilot device and control circuit affecting controller functions.
- B. Select horsepower rating of controllers to suit motor controlled.
- C. For control equipment at walls, bolt units to wall or mount on lightweight structural-steel channels bolted to wall. For controllers not at walls, provide freestanding racks complying with Division 26 Section "Hangers and Supports for Electrical Systems."
- D. Connect selector switches to bypass only the manual and automatic control devices that have no safety functions when switch is in the hand position.
- E. Connect selector switches with motor-control circuit in both hand and automatic positions for safety-type control devices such as low- and high-pressure cutouts, high-temperature cutouts, and motor overload protectors.
- F. Set field-adjustable switches and circuit-breaker trip ranges.

END OF SECTION 26 29 13

SECTION 26 50 00

LIGHTING

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

- A. Submittals: Product Data for each luminaire, including lamps.
- B. Fixtures, Emergency Lighting Units, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Coordinate ceiling-mounted luminaires with ceiling construction, mechanical work, and security and fire-prevention features mounted in ceiling space and on ceiling.

PART 2 - PRODUCTS

2.01 BALLASTS

- A. Ballasts for Linear Fluorescent Lamps:
 - 1. Electronic: Comply with ANSI C82.11; instant-start type.
 - 2. For Temperatures minus 20 Degree F and Higher: Electromagnetic type designed for use with indicated lamp types.
 - 3. Dimmer-Controlled: Electronic type.
 - a. Dimming Range: 100 to 5 percent of rated lamp lumens.
 - b. Ballast Input Watts: Can be reduced to 20 percent of normal.
 - c. Compatibility: Certified by manufacturer for use with specific dimming control system and lamp type indicated.
- B. Ballasts for Compact Fluorescent Lamps: Electronic programmed rapid-start type.
 - 1. Lamp end-of-life detection and shutdown circuit.
 - 2. Automatic lamp starting after lamp replacement.
 - 3. Sound Rating: Amperes.
 - 4. BF: 0.95 or higher unless otherwise indicated.
 - 5. Power Factor: 0.95 or higher.
- C. Ballasts for Metal-Halide Lamps:
 - 1. Electronic:
 - a. Lamp end-of-life detection and shutdown circuit.
 - b. Total Harmonic Distortion Rating: Less than 15 percent.
 - c. Transient Voltage Protection: IEEE C62.41, Category A or better.
- D. Ballasts for High-Pressure Sodium Lamps: Electromagnetic type, with solid-state igniter/starter. Igniter-starter shall have an average life in pulsing mode of 10,000 hours at an igniter/starter-case temperature of 194 degree F.

2.02 EXIT SIGNS

- A. Internally Lighted Signs: See Light Fixture Schedule on drawings.

2.03 EMERGENCY LIGHTING UNITS

- A. Self-contained units complying with UL 924: See Light Fixture Schedule on drawings.

2.04 LAMPS

- A. T8 Rapid-Start Low-Mercury Fluorescent Lamps: Rated 32 W maximum, nominal length 48 inches, 2800 initial lumens (minimum), CRI of 75 (minimum), color temperature of 3500 K, and average rated life of 20,000 hours unless otherwise indicated.
- B. T8 Rapid-Start Low-Mercury Fluorescent Lamps: Rated 17 W maximum, nominal length of 24 inches, 1300 initial lumens (minimum), CRI of 75 (minimum), color temperature of 3500 K, and average rated life of 20,000 hours unless otherwise indicated.
- C. T5 rapid-start lamps, rated 28 W maximum, nominal length of 45.2 inches, 2900 initial lumens (minimum), CRI 85 (minimum), color temperature 5000 K, and average rated life of 20,000 hours unless otherwise indicated.
- D. T5HO rapid-start, high-output lamps, rated 54 W maximum, nominal length of 45.2 inches, 5000 initial lumens (minimum), CRI 85 (minimum), color temperature 5000 K, and average rated life of 20,000 hours unless otherwise indicated.
- E. Compact Fluorescent Lamps: 4-Pin, low mercury, CRI 80 (minimum), color temperature

3500 K, average rated life of 10,000 hours at 3 hours operation per start, and suitable for use with dimming ballasts unless otherwise indicated.

1. 13 W: T4, double or triple tube, rated 900 initial lumens (minimum).
 2. 18 W: T4, double or triple tube, rated 1200 initial lumens (minimum).
 3. 26 W: T4, double or triple tube, rated 1800 initial lumens (minimum).
 4. 32 W: T4, triple tube, rated 2400 initial lumens (minimum).
 5. 42 W: T4, triple tube, rated 3200 initial lumens (minimum).
 6. 55 W: T4, triple tube, rated 4300 initial lumens (minimum).
 7. 70 W: T4, triple tube, rated 5200 initial lumens (minimum).
- D. High-Pressure Sodium Lamps: ANSI C78.42, CRI 21 (minimum), color temperature 1900 K, and average rated life of 24,000 hours, minimum.
- E. Metal-Halide Lamps: ANSI C78.1372, with a minimum CRI 65, and color temperature 4000 K.
- F. Pulse-Start, Metal-Halide Lamps: Minimum CRI 65, and color temperature 4000 K.
- G. Ceramic, Pulse-Start, Metal-Halide Lamps: Minimum CRI 80, and color temperature 4000 K.

2.05 REQUIREMENTS FOR INDIVIDUAL LIGHTING FIXTURES

- A. Light Fixtures: See Light fixture Schedule on drawings.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Set units level, plumb, and square with ceiling and walls, and secure.
- B. Support for Recessed and Semi-recessed Grid-Type Fluorescent Fixtures:
1. Install ceiling Support System wires at a minimum of 4 wires for each fixture, located not more than 6 inches from fixture comers.
 2. Support Clips: Fasten to fixtures and to ceiling grid members at or near each fixture corner with clips that are UL listed for the application.
 3. Fixtures of Sizes Less Than Ceiling Grid: Install as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4-inch metal channels spanning and secured to ceiling tees.
 4. Install at least one independent support rod or wire from structure to a tab on lighting fixture. Wire or rod shall have breaking strength of the weight of fixture at a safety factor of 3.
- C. Suspended Lighting Fixture Support:
1. Pendants and Rods: Where longer than 48 inches, brace to limit swinging.
 2. Stem-Mounted, Single-Unit Fixtures: Suspend with twin-stem hangers.
 3. Continuous Rows: Use tubing or stem for wiring at one point and tubing or rod for suspension for each unit length of fixture chassis, including one at each end.
 4. Do not use grid as support for pendant luminaires. Connect support wires or rods to building structure
- D. Air-Handling Fixtures: Install with dampers closed.
- E. Adjust directional lighting fixtures to provide required light intensities.
- F. Lamping: Where specific lamp designations are not indicated, lamp units according to manufacturer's written instructions.
1. Provide extra two cases of 48" T-8 lamps and six extra lamps for each other type of lamp used on the project.

END OF SECTION 26 50 00

LIMITED ASBESTOS INSPECTION REPORT

1028 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247 # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA ACM license #25-12948
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA ACM license #25-12943

INTRODUCTION

This limited asbestos inspection report for the building located at 1028 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The two-story building was observed to be constructed of brick. Interior exhibited wood panels and finishes for retail and display purposes.

Access to the upper-level apartment unavailable; materials present on the interior of the 2nd floor façade were not assessed.

Limitations:

The inspection was limited to exterior and interior surfaces associated with the façade facing 6th Street.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection and date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

The intended use of this report is to

- identify locations, concentrations and condition of regulated ACM.
- Estimate quantities of ACM.
- Provide documentation for abatement personnel, as may be warranted.

Methodology:

The inspection was performed in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The inspection took place in keeping with industry standards and direction provided by the CLIENT.

This report itemizes materials and sample location, analytical methods, and results of analytical tests. The approximate square footage/linear footage of the materials testing positive for ACMs are provided together with the approximate locations. Bulk ACM samples were analyzed using polarized light microscopy (PLM) to determine if samples contain asbestos at concentrations equal to or exceeding 1% asbestos.

Attachments to this report include photographs of sample locations, laboratory analytical reports, chain-of-custody forms, and applicable certifications of the site inspectors.

ACM Classification and Terminology:

This inspection was performed to identify homogeneous areas and material suspected to contain asbestos. These materials are then treated as ACM unless samples are taken and they are confirmed to be non-asbestos. The location of the materials suspected of containing asbestos is often documented and then categorized using the following categories:

- Surfacing materials - Interior ACM that has been sprayed on, troweled on, or otherwise applied to surfaces (structural members, walls ceiling, etc.) for acoustical, decorative, fireproofing or other purposes. This includes acoustical plaster, hard plasters (wall or ceiling), fireproofing insulation, spray-applied or blown-in thermal material, joint or patching compound and textured paints or plasters.

- Thermal System Insulation (TSI) - Insulation used to control heat transfer or prevent condensation on pipes and pipe fittings, boilers breeching, tanks, ducts, and other parts of hot and cold water systems; heating ventilation, air conditioning (HVAC) systems; or other mechanical systems. These insulation materials include pipe lagging, pipe wrap, duct insulation, block insulation, cements and muds (often used on fittings), and a variety of other products such as gaskets and ropes.
- Miscellaneous Materials - Other, mostly nonfriable products and materials found on structural components, structural member or fixtures, such as floor tile, ceiling tile, construction mastic for floor and ceiling materials, sheet flooring, fire doors, asbestos cement pipe and board, wallboard, acoustical wall tile, and vibration damping cloth. Miscellaneous materials do not include TSI or surfacing materials.

Accessible Areas:

An accessible area of the building is any area that the survey team is permitted to inspect and that can be inspected without the disassembly of complicated mechanical or rigid structural components of the building. Examples of accessible areas of the building are interior floors, walls, ceilings, areas above suspended ceilings, return air shafts (normally), mechanical piping exteriors, and equipment exteriors, etc.

Damaged Material:

A “Damaged” material contains a few water stains or less than one-tenth of insulation with missing jackets and/or crushed insulation or water stains, gouges, punctures, or mars on up to one-tenth of the insulation if the damage is evenly distributed or up to one-quarter if the damage is localized. These terms are moot if no ACM is in the material.

Inaccessible Areas:

An inaccessible area is any area where inspection access is not permitted or requires a considerable amount of mechanical or structural disassembly to inspect. Inaccessible areas normally only investigated prior to renovation or demolition activities. Examples of inaccessible areas are pipe chases behind solid walls, mechanically encased insulation, or unsafe areas.

Friable Material:

A material, that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure is a friable material. Examples of friable materials include: pipe insulation, boiler or tank insulation, or sprayed-on fireproofing.

Non-friable Material:

A material, that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable materials may become friable through damage or deterioration. Examples of non-friable materials include: intact floor tiles, transite building panels, or well-maintained roofing materials.

Homogeneous Area:

A homogenous area is defined as a group of materials that is uniform in texture and appearance, was installed at one time and is unlikely to consist of more than one type or formation of material.

Significantly Damaged Material:

A “significantly damaged” material contains missing jackets at on a least one-tenth of the piping or equipment and/or crushed, heavily gouged, or punctured insulation on at least on-tenth of pipe runs/risers, boilers, tanks, ducts, etc., if the damage is evenly distributed or one-quarter if the damage is localized.

Presumed Asbestos Containing Material (PACM):

Thermal system insulation (TSI) and surfacing material found in buildings constructed no later than 1980 must be presumed to contain asbestos. The designation of a material as “PACM” may be rebutted pursuant to 29 CFR 1910.1001(j) (8). For remediation work, TSI and sprayed or troweled on surfacing materials must be treated as asbestos-containing, unless a determination is made in compliance with 29 CFR 1926.1101(k) (5) that the material is not asbestos-containing. Asphalt and vinyl flooring material installed prior to 1980 must also be considered as asbestos containing during remediation work unless the employer, pursuant to 29 CFR 1926.1101 (g)(8)(i)(I), determines that it is not asbestos containing.

Regulated Asbestos Containing Material (RACM):

Material composed of asbestos of any type and in an amount greater than one percent by weight, either alone or mixed with other fibrous or non-fibrous material.

Class I, II, III Asbestos Work:

Work activities that will be performed by a trained outside contractor that involve the removal or repair of asbestos-containing thermal system insulation, surfacing materials (e.g. spray-on fireproofing) or other miscellaneous ACM.

Class IV Asbestos Work:

Work that involves the engineering and custodial activities during which employees or subcontractors may contact but do not disturb ACM or PACM. It may involve cleaning in mechanical rooms or removal of equipment or debris in areas where ACM is or may be present.

Laboratory Analytical Results for locations with suspect ACM are provided in the table below.

Refer to the laboratory analytical report for details on the layers within each sample location.

LOCATIONS and SUMMARY FINDINGS SUSPECT ASBESTOS CONTAINING MATERIALS			
Homogeneous Area Number	Material Description	Area Location	Asbestos Content/Type
CB-2	Black cove base	1 st floor coffee shop	No asbestos detected
UL-1	Underlayment on awning	Exterior awning below wood shake	No asbestos detected
RF-1	Foam roof covering	Roof	No asbestos detected

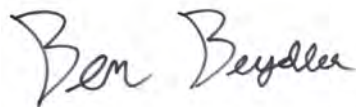
No suspect materials were determined to contain asbestos

All questions specific to this report should be addressed to EnviroNET; however, the demolition contractor is responsible for the means and methods of abatement and for compliance with all environmental regulations.

Please call (563) 323-2262 or my cell (563) 340-2440 if we may be of further service on this project. It has been a pleasure to work with you.

Sincerely,

ENVIRONET, INC.



Ben D. Beydler, Ph.D.
Licensed IA ACM Inspector

ENVIRONET, INC.



Molly Newell, PG, CHMM
Licensed IA ACM Inspector

Attachments:

Photographs

Laboratory Analytical Reports

Chain of Custody Documentation

Asbestos License of Inspector

Photographs



View of subject property, looking west. First floor occupied by The Local, 2nd floor apartment.



View of sample CB-2: Black cove base in coffee shop. No asbestos detected.



View of sample UL-1: Underlayment beneath shingles on awning. No asbestos detected.



View of sample RF-1: Foam roof covering. No asbestos detected.

Laboratory Report and Chain of Custody

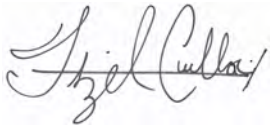
Report for:

Ben Beydler
EnviroNet
One River Place
1225 East River Drive, Suite 101
Davenport, IA 52803

Regarding: Eurofins Built Environment Testing Central, LLC
Project: Nevada ACM; 1038 6th Street, Nevada, IA
EML ID: 4378613

Approved by:

Dates of Analysis:
Asbestos PLM: 01-21-2026



Business Unit Manager
Itzel Cuellar

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EB-AS-S-1267)
NVLAP Lab Code 600194-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins Built Environment Testing Central, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Total Samples Submitted: 27

Total Samples Analyzed: 27

Total Samples with Layer Asbestos Content > 1%: 6

Location: FT-1, Grey 1x1 tile 1038

Lab ID-Version‡: 21947333-1

Sample Layers	Asbestos Content
Gray Floor Tile	ND
Sample Composite Homogeneity:	Good

Comments: Insufficient mastic material present for analysis.

Location: CT-1, 2x4 fissured tile 1038

Lab ID-Version‡: 21947334-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 20% Glass Fibers
Sample Composite Homogeneity:	Good

Location: CB-1, Brown cove base 1038

Lab ID-Version‡: 21947335-1

Sample Layers	Asbestos Content
Brown Baseboard	ND
Sample Composite Homogeneity:	Good

Location: WP-1, Wall plaster 1038

Lab ID-Version‡: 21947336-1

Sample Layers	Asbestos Content
White Plaster	ND
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

All components not quantified as asbestos content and non-asbestos content are considered to be non-fibrous matrix components. Matrix components may include, but are not limited to, gypsum, paint, silicate minerals, vinyl, binder, calcium carbonate, tar, and foam.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FT-2, Light grey tile 1032

Lab ID-Version‡: 21947337-1

Sample Layers	Asbestos Content
Gray Floor Tile	ND
Yellow Mastic	ND
Sample Composite Homogeneity: Good	

Location: WP-2, Wall plaster 2nd floor

Lab ID-Version‡: 21947338-1

Sample Layers	Asbestos Content
White Compound with Paint	2% Chrysotile
White Plaster	ND
Sample Composite Homogeneity: Moderate	

Location: CP-1, Ceiling plaster 2nd floor

Lab ID-Version‡: 21947339-1

Sample Layers	Asbestos Content
Beige Plaster with Paint	ND
Sample Composite Homogeneity: Good	

Location: FS-1, Floor sheeting 526

Lab ID-Version‡: 21947340-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity: Good	

Location: FS-2, Floor sheeting 532

Lab ID-Version‡: 21947341-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity: Good	

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FS-3, Floor sheeting 1038

Lab ID-Version‡: 21947342-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity:	Good

Location: FS-4, Floor sheeting 1038/1032

Lab ID-Version‡: 21947343-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity:	Good

Location: INS-1, Insulation above ceiling

Lab ID-Version‡: 21947344-1

Sample Layers	Asbestos Content
Brown Insulation	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

Location: RM-1, Black roof membrane

Lab ID-Version‡: 21947345-1

Sample Layers	Asbestos Content
Black Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: FC-1, Grey flashing cement on parapet

Lab ID-Version‡: 21947346-1

Sample Layers	Asbestos Content
Black Roof Flashing	8% Chrysotile
Sample Composite Homogeneity:	Good

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FC-2, Black flashing on parapet

Lab ID-Version‡: 21947347-1

Sample Layers	Asbestos Content
Black Roof Flashing	ND
Sample Composite Homogeneity: Good	

Location: RF-1, Foam roof covering 1032-1028

Lab ID-Version‡: 21947348-1

Sample Layers	Asbestos Content
White Foam with Paint	ND
Sample Composite Homogeneity: Good	

Location: WP-3, Wall plaster 2nd fl 1032

Lab ID-Version‡: 21947349-1

Sample Layers	Asbestos Content
White Compound with Paint	2% Chrysotile
Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: CB-2, Black cove base 1028

Lab ID-Version‡: 21947350-1

Sample Layers	Asbestos Content
Black Baseboard	ND
Sample Composite Homogeneity: Good	

Location: WG-1, Window glazing N 1038

Lab ID-Version‡: 21947351-1

Sample Layers	Asbestos Content
Gray Window Glazing with Paint	ND
Sample Composite Homogeneity: Good	

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: WG-2, Window glazing N 1038

Lab ID-Version‡: 21947352-1

Sample Layers	Asbestos Content
Gray Window Glazing	ND
White Window Glazing	ND
Sample Composite Homogeneity: Moderate	

Location: WC-1, Window glazing N 1038

Lab ID-Version‡: 21947353-1

Sample Layers	Asbestos Content
White Caulk with Paint	3% Chrysotile
Sample Composite Homogeneity: Good	

Location: WC-2, Window caulk 1032

Lab ID-Version‡: 21947354-1

Sample Layers	Asbestos Content
White Caulk with Paint	ND
Sample Composite Homogeneity: Good	

Location: WC-3, Window caulk E 1038

Lab ID-Version‡: 21947355-1

Sample Layers	Asbestos Content
White Caulk with Paint	3% Chrysotile
Sample Composite Homogeneity: Good	

Location: U2-1, Underlayment on 1028 awning

Lab ID-Version‡: 21947356-1

Sample Layers	Asbestos Content
Black Mastic	ND
Sample Composite Homogeneity: Good	

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: EC-1, Red caulk 1038 corner

Lab ID-Version‡: 21947357-1

Sample Layers	Asbestos Content
Red Caulk	ND
Gray Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Location: EC-2, Red caulk consignment window

Lab ID-Version‡: 21947358-1

Sample Layers	Asbestos Content
Red Caulk	ND
Gray Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Location: FC-3, Flashing

Lab ID-Version‡: 21981871-1

Sample Layers	Asbestos Content
Gray Non-Fibrous Material	3% Chrysotile
Sample Composite Homogeneity: Good	

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Eurofins Built Environment Testing Central, LLC
1815 West Diehl Road, Suite 800, Naperville, IL 60563
(866) 871-1984 www.eurofinsus.com/Built

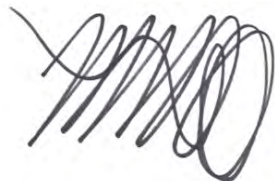
Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

PROJECT ANALYST AND SIGNATORY REPORT

Project Analyst



Analyst: Kimberly Bugarin

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East: (866) 871-1984
Central: (800) 651-4802
West: (866) 888-6653

LEVEL	WEATHER	Fog	Rain	Snow	Wind	Clear
	None					
	Light					
	Moderate					
	Heavy					

REQUESTED SERVICES

Non-Culturable		Culturable	Other Requests
Spore Trap	Tape, Swab, Bulk	BioCassette™ Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate	

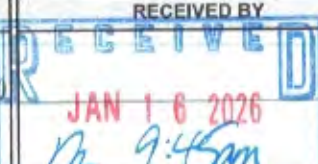
CONTACT INFORMATION		
Company:	EnviroNET, Inc.	Address: 1225 East River Drive, Suite 101, Davenport, IA 52803
Contact:	Ben Beydler	Special Instructions:
Phone:	563-323-2262	

PROJECT INFORMATION		TURN AROUND TIME CODES - (TAT)	
Project ID:	Nevada ACM	STD - Standard (Default)	Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.
Project Description:	1038 6th Street, Nevada, IA	ND - Next Business Day	
Project Zip Code:	50201	SD - Same Business Day	
PO Number:	250247	WH - Weekend/Holiday/ASAP	
Sampling Date/Time:	1-13-26		
Sampled By:	BDB		

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)
FT-1	Grey 1x1 tile, 1038	B	STD		
CT-1	2x4 FISSURED tile, 1038				
CB-1	BROWN COVE BASE, 1038				
WP-1	WALL PLASTER, 1038				
FT-2	light grey tile, 1032				
WP-2	WALL PLASTER 2ND FLOOR				
CP-1	Ceiling PLASTER, 2ND FLOOR				
FS-1	Floor Sheeting, 526				
FS-2	Floor Sheeting, 532				
FS-3	Floor Sheeting, 1038				
FS-4	Floor Sheeting, 1038/1032				
INS-1	insulation above ceiling				
RM-1	BLACK ROOF MEMBRANE				
FC-1	Grey FLASHING Cement on PARAPET				
FC-2	BLACK FLASHING ON PARAPET				

SAMPLE TYPE CODES			
BC - BioCassette™	CP - Contact Plate	T - Tape	O - Other:
A1S - Andersen	ST - Spore Trap	SW - Swab	
SAS - Surface Air Sampler	B - Bulk	SO - Soil	
NP - Non-potable Water	P - Potable Water	D - Dust	

RELINQUISHED BY	DATE & TIME
Ben Beydler	1/15/26 1100

RECEIVED BY	DATE & TIME
 JAN 16 2026 9:45am	

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at: <https://www.eurofinsus.com/environment-testing/built-environment/resources/sampling-guides-and-forms>

East: (866) 871-1984

Central: (800) 651-4802

West: (866) 888-6653

WEATHER		Fog	Rain	Snow	Wind	Clear
LEVEL	None					
	Light					
	Moderate					
	Heavy					

REQUESTED SERVICES			
Non-Culturable		Culturable	Other Requests
Spore Trap	Tape, Swab, Bulk	BioCassette™, Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate	

CONTACT INFORMATION		
Company:	Enviro NET , Inc.	Address: 1225 East River Drive, Suite 101, Davenport, IA 52803 Special Instructions:
Contact:	Ben Beydler	
Phone:	563-323-2262	

PROJECT INFORMATION				TURN AROUND TIME CODES - (TAT)	
Project ID:	Nevada ACM			STD - Standard (Default)	Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.
Project Description:	1038 6th Street, Nevada, IA			ND - Next Business Day	
Project Zip Code:	50201	Sampling Date/Time:	1-13-26	SD - Same Business Day	
PQ Number:	250247	Sampled By:	BDB	WH - Weekend/Holiday/ASAP	

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)
RF-1	Foam Roof covering 1032/1028	B	STD		
WP-3	wall plaster, 2nd Fl 1032				
CB-2	Basic Cove Base, 1028				
WG-1	window glazing, N 1038				
WG-2	window glazing, N 1038				
WC-1	window caulk, N 1038				
WC-2	window caulk, 1032				
WC-3	window caulk, E 1038				
VZ-1	underlayment on 1028 Awning				
EC-1	red caulk, 1038 corner				
EC-2	red caulk, confinement window				

SAMPLE TYPE CODES				RELINQUISHED BY	DATE & TIME
BC - BioCassette™	CP - Contact Plate	T - Tape	O - Other:	Ben Beydler	1/15/26 1100
A1S - Andersen	ST - Spore Trap	SW - Swab			
SAS - Surface Air Sampler	B - Bulk	SO - Soil			
NP - Non-potable Water	P - Potable Water	D - Dust			

Spore Trap Analysis	
Other biological particles - supplement	
Direct Microscopic Exam (Qualitative)	
Quantitative spore count direct exam	
Dust Characterization	
1-Media Surface Fungi (Genus ID + A	
Culturable Air Fungi (Genus ID + Asp	
Gram Stain and Counts (Culturable /	
Legionella culture	
Total Coliform, E.coli (Presence/Ab	
QuantTray-Sewage Screen	
OTHER: (please specify test)	
Asbestos in Air - PCM Airborne F/	
Asbestos Bulk - PLM	
Lead (Pb) - Flame AA	
PCR (please specify test)	
Allergens (please specify test)	

	RECEIVED BY	DATE & TIME

Inspector Licenses

**BENJAMIN DUPREE
BEYDLER**

DOB: 12-14-1983

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12943	01-30-26



Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

MOLLY NEWELL

DOB: 08-07-1956

Issued: 02-10-2025

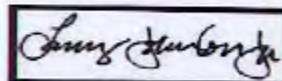


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License Type	Number	Expires
INSPECTOR	25-12948	01-30-2026

IOWA

Asbestos



**Larry Johnson, Jr.
Labor Commissioner**

LIMITED ASBESTOS INSPECTION REPORT

1032 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247 # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA ACM license #25-12948
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA ACM license #25-12943

INTRODUCTION

This limited asbestos inspection report for the building located at 1032 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

Some overlap in inspection and testing was conducted between this property and 1038 6th Street, which have partially shared interiors.

The two-story building was observed to be constructed of brick with vertical concrete supports on the periphery, and some plaster over structural brick (original) on interior of peripheral walls. Interiors also exhibited various wood panels and finishes for retail and display purposes. The second story was accessible through a rear door.

Access to both the lower-level consignment shop and the upper-level (vacant) apartment was provided by Mr. Jim Samuelson, who indicated the property had been in his family since 1947.

Limitations:

The inspection was limited to exterior and interior surfaces associated with the façade facing 6th Street.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection and date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

Utilities were not in service for the upper level. The upstairs apartment over the retail space was vacant. Debris was prevalent limiting direct access to some areas.

The intended use of this report is to

- identify locations, concentrations and condition of regulated ACM.
- Estimate quantities of ACM.
- Provide documentation for abatement personnel, as may be warranted.

Methodology:

The inspection was performed in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The inspection took place in keeping with industry standards and direction provided by the CLIENT.

This report itemizes materials and sample location, analytical methods, and results of analytical tests. The approximate square footage/linear footage of the materials testing positive for ACMs are provided together with the approximate locations. Bulk ACM samples were analyzed using polarized light microscopy (PLM) to determine if samples contain asbestos at concentrations equal to or exceeding 1% asbestos.

Attachments to this report include photographs of sample locations, laboratory analytical reports, chain-of-custody forms, and applicable certifications of the site inspectors. The chain of custody also contains lab results from adjoining properties.

ACM Classification and Terminology:

This inspection was performed to identify homogeneous areas and material suspected to contain asbestos. These materials are then treated as ACM unless samples are taken and they are confirmed to

be non-asbestos. The location of the materials suspected of containing asbestos is often documented and then categorized using the following categories:

- Surfacing materials - Interior ACM that has been sprayed on, troweled on, or otherwise applied to surfaces (structural members, walls ceiling, etc.) for acoustical, decorative, fireproofing or other purposes. This includes acoustical plaster, hard plasters (wall or ceiling), fireproofing insulation, spray-applied or blown-in thermal material, joint or patching compound and textured paints or plasters.
- Thermal System Insulation (TSI) - Insulation used to control heat transfer or prevent condensation on pipes and pipe fittings, boilers breeching, tanks, ducts, and other parts of hot and cold water systems; heating ventilation, air conditioning (HVAC) systems; or other mechanical systems. These insulation materials include pipe lagging, pipe wrap, duct insulation, block insulation, cements and muds (often used on fittings), and a variety of other products such as gaskets and ropes.
- Miscellaneous Materials - Other, mostly nonfriable products and materials found on structural components, structural member or fixtures, such as floor tile, ceiling tile, construction mastic for floor and ceiling materials, sheet flooring, fire doors, asbestos cement pipe and board, wallboard, acoustical wall tile, and vibration damping cloth. Miscellaneous materials do not include TSI or surfacing materials.

Accessible Areas:

An accessible area of the building is any area that the survey team is permitted to inspect and that can be inspected without the disassembly of complicated mechanical or rigid structural components of the building. Examples of accessible areas of the building are interior floors, walls, ceilings, areas above suspended ceilings, return air shafts (normally), mechanical piping exteriors, and equipment exteriors, etc.

Damaged Material:

A “Damaged” material contains a few water stains or less than one-tenth of insulation with missing jackets and/or crushed insulation or water stains, gouges, punctures, or mars on up to one-tenth of the insulation if the damage is evenly distributed or up to one-quarter if the damage is localized. These terms are moot if no ACM is in the material.

Inaccessible Areas:

An inaccessible area is any area where inspection access is not permitted or requires a considerable amount of mechanical or structural disassembly to inspect. Inaccessible areas normally only investigated prior to renovation or demolition activities. Examples of inaccessible areas are pipe chases behind solid walls, mechanically encased insulation, or unsafe areas.

Friable Material:

A material, that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure is a friable material. Examples of friable materials include: pipe insulation, boiler or tank insulation, or sprayed-on fireproofing.

Non-friable Material:

A material, that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable materials may become friable through damage or deterioration. Examples of non-friable materials include: intact floor tiles, transite building panels, or well-maintained roofing materials.

Homogeneous Area:

A homogenous area is defined as a group of materials that is uniform in texture and appearance, was installed at one time and is unlikely to consist of more than one type or formation of material.

Significantly Damaged Material:

A “significantly damaged” material contains missing jackets at on a least one-tenth of the piping or equipment and/or crushed, heavily gouged, or punctured insulation on at least on-tenth of pipe runs/risers, boilers, tanks, ducts, etc., if the damage is evenly distributed or one-quarter if the damage is localized.

Presumed Asbestos Containing Material (PACM):

Thermal system insulation (TSI) and surfacing material found in buildings constructed no later than 1980 must be presumed to contain asbestos. The designation of a material as “PACM” may be rebutted pursuant to 29 CFR 1910.1001(j) (8). For remediation work, TSI and sprayed or troweled on surfacing materials must be treated as asbestos-containing, unless a determination is made in compliance with 29 CFR 1926.1101(k) (5) that the material is not asbestos-containing. Asphalt and vinyl flooring material installed prior to 1980 must also be considered as asbestos containing during remediation work unless the employer, pursuant to 29 CFR 1926.1101 (g)(8)(i)(I), determines that it is not asbestos containing.

Regulated Asbestos Containing Material (RACM):

Material composed of asbestos of any type and in an amount greater than one percent by weight, either alone or mixed with other fibrous or non-fibrous material.

Class I, II, III Asbestos Work:

Work activities that will be performed by a trained outside contractor that involve the removal or repair of asbestos-containing thermal system insulation, surfacing materials (e.g. spray-on fireproofing) or other miscellaneous ACM.

Class IV Asbestos Work:

Work that involves the engineering and custodial activities during which employees or subcontractors may contact but do not disturb ACM or PACM. It may involve cleaning in mechanical rooms or removal of equipment or debris in areas where ACM is or may be present.

Laboratory Analytical Results for locations with suspect ACM are provided in the table below.

Refer to the laboratory analytical report for details on the layers within each sample location.

LOCATIONS and SUMMARY FINDINGS SUSPECT ASBESTOS CONTAINING MATERIALS			
Homogeneous Area Number	Material Description	Area Location	Asbestos Content/Type
FT-2	Grey floor tile	1032 1 st floor	No asbestos detected
RF-1	Foam roof covering	1032 Roof	No asbestos detected
WP-3	Wall plaster with skim coat/texture	1032 2 nd floor east wall	2% chrysotile asbestos
WC-2	Window caulk	1032 2 nd floor exterior	No asbestos detected

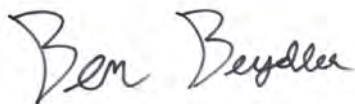
WP-3 Wall plaster with skim coat on the 2nd floor east wall tested positive for 2% Chrysotile asbestos. The asbestos is contained in the skim coat/texture layer. Approximately 200 square feet estimated present along exterior wall. Fair condition and nonfriable.

All questions specific to this report should be addressed to EnviroNET; however, the demolition contractor is responsible for the means and methods of abatement and for compliance with all environmental regulations.

Please call (563) 323-2262 or my cell (563) 340-2440 if we may be of further service on this project. It has been a pleasure to work with you.

Sincerely,

ENVIRONET, INC.



Ben D. Beydler, Ph.D.
Licensed IA ACM Inspector

ENVIRONET, INC.



Molly Newell, PG, CHMM
Licensed IA ACM Inspector

Attachments:

Photographs

Laboratory Analytical Reports

Chain of Custody Documentation

Asbestos License of Inspector

APPENDIX A

PHOTOGRAPHS



View of subject property, looking west. First floor occupied by Consignment Gallery, 2nd floor vacant.



View of sample FT-2: Grey floor tile in south consignment shop. No asbestos detected.



View of sample WP-3: Wall plaster with skim coat/texture on second floor. 2% chrysotile asbestos.



View of sample RF-1: Foam roof covering. No asbestos detected.

Laboratory Report and Chain of Custody

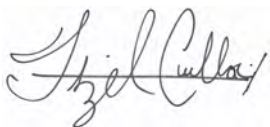
Report for:

Ben Beydler
EnviroNet
One River Place
1225 East River Drive, Suite 101
Davenport, IA 52803

Regarding: Eurofins Built Environment Testing Central, LLC
Project: Nevada ACM; 1038 6th Street, Nevada, IA
EML ID: 4378613

Approved by:

Dates of Analysis:
Asbestos PLM: 01-21-2026



Business Unit Manager
Itzel Cuellar

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EB-AS-S-1267)
NVLAP Lab Code 600194-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins Built Environment Testing Central, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Total Samples Submitted: 27

Total Samples Analyzed: 27

Total Samples with Layer Asbestos Content > 1%: 6

Location: FT-1, Grey 1x1 tile 1038

Lab ID-Version‡: 21947333-1

Sample Layers	Asbestos Content
Gray Floor Tile	ND
Sample Composite Homogeneity:	Good

Comments: Insufficient mastic material present for analysis.

Location: CT-1, 2x4 fissured tile 1038

Lab ID-Version‡: 21947334-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 20% Glass Fibers
Sample Composite Homogeneity:	Good

Location: CB-1, Brown cove base 1038

Lab ID-Version‡: 21947335-1

Sample Layers	Asbestos Content
Brown Baseboard	ND
Sample Composite Homogeneity:	Good

Location: WP-1, Wall plaster 1038

Lab ID-Version‡: 21947336-1

Sample Layers	Asbestos Content
White Plaster	ND
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

All components not quantified as asbestos content and non-asbestos content are considered to be non-fibrous matrix components. Matrix components may include, but are not limited to, gypsum, paint, silicate minerals, vinyl, binder, calcium carbonate, tar, and foam.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FT-2, Light grey tile 1032

Lab ID-Version‡: 21947337-1

Sample Layers	Asbestos Content
Gray Floor Tile	ND
Yellow Mastic	ND
Sample Composite Homogeneity: Good	

Location: WP-2, Wall plaster 2nd floor

Lab ID-Version‡: 21947338-1

Sample Layers	Asbestos Content
White Compound with Paint	2% Chrysotile
White Plaster	ND
Sample Composite Homogeneity: Moderate	

Location: CP-1, Ceiling plaster 2nd floor

Lab ID-Version‡: 21947339-1

Sample Layers	Asbestos Content
Beige Plaster with Paint	ND
Sample Composite Homogeneity: Good	

Location: FS-1, Floor sheeting 526

Lab ID-Version‡: 21947340-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity: Good	

Location: FS-2, Floor sheeting 532

Lab ID-Version‡: 21947341-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity: Good	

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FS-3, Floor sheeting 1038

Lab ID-Version‡: 21947342-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity:	Good

Location: FS-4, Floor sheeting 1038/1032

Lab ID-Version‡: 21947343-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity:	Good

Location: INS-1, Insulation above ceiling

Lab ID-Version‡: 21947344-1

Sample Layers	Asbestos Content
Brown Insulation	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

Location: RM-1, Black roof membrane

Lab ID-Version‡: 21947345-1

Sample Layers	Asbestos Content
Black Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: FC-1, Grey flashing cement on parapet

Lab ID-Version‡: 21947346-1

Sample Layers	Asbestos Content
Black Roof Flashing	8% Chrysotile
Sample Composite Homogeneity:	Good

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‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FC-2, Black flashing on parapet

Lab ID-Version‡: 21947347-1

Sample Layers	Asbestos Content
Black Roof Flashing	ND
Sample Composite Homogeneity: Good	

Location: RF-1, Foam roof covering 1032-1028

Lab ID-Version‡: 21947348-1

Sample Layers	Asbestos Content
White Foam with Paint	ND
Sample Composite Homogeneity: Good	

Location: WP-3, Wall plaster 2nd fl 1032

Lab ID-Version‡: 21947349-1

Sample Layers	Asbestos Content
White Compound with Paint	2% Chrysotile
Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: CB-2, Black cove base 1028

Lab ID-Version‡: 21947350-1

Sample Layers	Asbestos Content
Black Baseboard	ND
Sample Composite Homogeneity: Good	

Location: WG-1, Window glazing N 1038

Lab ID-Version‡: 21947351-1

Sample Layers	Asbestos Content
Gray Window Glazing with Paint	ND
Sample Composite Homogeneity: Good	

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: WG-2, Window glazing N 1038

Lab ID-Version‡: 21947352-1

Sample Layers	Asbestos Content
Gray Window Glazing	ND
White Window Glazing	ND
Sample Composite Homogeneity: Moderate	

Location: WC-1, Window glazing N 1038

Lab ID-Version‡: 21947353-1

Sample Layers	Asbestos Content
White Caulk with Paint	3% Chrysotile
Sample Composite Homogeneity: Good	

Location: WC-2, Window caulk 1032

Lab ID-Version‡: 21947354-1

Sample Layers	Asbestos Content
White Caulk with Paint	ND
Sample Composite Homogeneity: Good	

Location: WC-3, Window caulk E 1038

Lab ID-Version‡: 21947355-1

Sample Layers	Asbestos Content
White Caulk with Paint	3% Chrysotile
Sample Composite Homogeneity: Good	

Location: U2-1, Underlayment on 1028 awning

Lab ID-Version‡: 21947356-1

Sample Layers	Asbestos Content
Black Mastic	ND
Sample Composite Homogeneity: Good	

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: EC-1, Red caulk 1038 corner

Lab ID-Version‡: 21947357-1

Sample Layers	Asbestos Content
Red Caulk	ND
Gray Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Location: EC-2, Red caulk consignment window

Lab ID-Version‡: 21947358-1

Sample Layers	Asbestos Content
Red Caulk	ND
Gray Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Location: FC-3, Flashing

Lab ID-Version‡: 21981871-1

Sample Layers	Asbestos Content
Gray Non-Fibrous Material	3% Chrysotile
Sample Composite Homogeneity: Good	

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

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Eurofins Built Environment Testing Central, LLC
1815 West Diehl Road, Suite 800, Naperville, IL 60563
(866) 871-1984 www.eurofinsus.com/Built

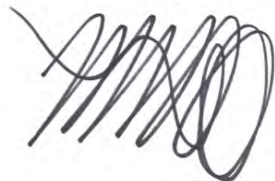
Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

PROJECT ANALYST AND SIGNATORY REPORT

Project Analyst



Analyst: Kimberly Bugarin

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

East: (866) 871-1984
Central: (800) 651-4802
West: (866) 888-6653

WEATHER	Fog	Rain	Snow	Wind	Clear
None					
Light					
Moderate					
Heavy					

www.eurofinsus.com/Built

CONTACT INFORMATION

Company:	EnviroNET, Inc.	Address:	1225 East River Drive, Suite 101, Davenport, IA 52803
Contact:	Ben Beydler	Special Instructions:	
Phone:	563-323-2262		

PROJECT INFORMATION

Project ID:	Nevada ACM	STD - Standard (Default)
Project Description:	1038 6th Street, Nevada, IA	ND - Next Business Day
Project Zip Code:	50201	SD - Same Business Day
PO Number:	250247	WH - Weekend/holiday/ASAP

TURN AROUND TIME CODES - (TAT)

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

REQUESTED SERVICES

Non-Culturable	Culturable	Other Requests
Spore Trap	BioCassette™ Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate	

004378613

Spore Trap Analysis	
Other biological particles - supplement	
Direct Microscopic Exam (Qualitative)	
Quantitative spore count direct exam	
Dust Characterization	
1-Media Surface Fungi (Genus ID + As)	
Culturable Air Fungi (Genus ID + As)	
Gram Stain and Counts (Culturable)	
Legionella culture	
Total Coliform, E.coli (Presence/A)	
QuantTray-Sewage Screen	
OTHER: (please specify test)	
Asbestos in Air - PCM Airborne	
Asbestos Bulk - PLM	
Lead (Pb) - Flame AA	
PCR (please specify test)	
Allergens (please specify test)	

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)
FT-1	Gypsum tile, 1038	B	STD		
CT-1	2x4 suspended tile, 1038				
CB-1	Gypsum core base, 1038				
WP-1	wall plaster, 1038				
FT-2	light grey tile, 1032				
WP-2	wall plaster 2nd floor				
CP-1	Ceiling plaster, 2nd floor				
FS-1	Floor slabs, 526				
FS-2	Floor Sheeting, 532				
FS-3	Floor Sheeting, 1038				
FS-4	Floor Sheeting, 1038/1032				
INS-1	Insulation above ceiling				
BM-1	Black roof membrane				
EC-1	Grey-Fiberglass Cement on PAPER				
EC-2	White Fiberglass on PAPER				

SAMPLE TYPE CODES

BC - BioCassette™	CP - Contact Plate	T - Tape	O - Other:
AIS - Andersen	ST - Spore Trap	SW - Swab	
SAS - Surface Air Sampler	B - Bulk	SO - Soil	
NP - Non-potable Water	P - Potable Water	D - Dust	

RELINQUISHED BY

DATE & TIME

RECEIVED BY

DATE & TIME

Ben Beydler

1/15/26 1100

JAN 16 2026 9:45am

East: (866) 871-1984
Central: (800) 651-4802
West: (866) 888-6653

WEATHER	Fog	Rain	Snow	Wind	Clear
None					
Light					
Moderate					
Heavy					

REQUESTED SERVICES		
Non-Culturable	Culturable	
Spore Trap Swab, Bulk	BioCassette™ Andersen, SAS, Swab, Walter, Bulk, Dust, Soil, Contact Plate	Other Requests



004378613

CONTACT INFORMATION

Company:	EnvironNET, Inc.	Address: 1225 East River Drive, Suite 101, Davenport, IA 52803
Contact:	Ben Beydler	Special Instructions:
Phone:	563-323-2262	

PROJECT INFORMATION				TURN AROUND TIME CODES - (TAT)	
Project ID:	Nevada ACM	STD - Standard (Default)			
Project Description:	1038 6th Street, Nevada, IA	ND - Next Business Day			Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.
Project Zip Code:	50201	SD - Same Business Day			
Project Sampling Date/Time:	1-13-26				
Project By:	BDB	WH - Weekend/Holiday/ASAP			
PO Number:	250247				

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)
RF-1	Foam Roof covering 1032/1028	B	STD		
WP-3	Wall Paper, 2nd Fl 1032				
CB-2	Black cover BtK 1028				
WG-1	window Glazing, N 1038				
WG-2	window Glazing, N 1038				
WC-1	window Calk, N 1038				
WC-2	window Calk, 1032				
WC-3	window Calk, E 1038				
V2-1	underlayment on 1028 Awning				
EC-1	Roof Calk, 1038 corner				
EC-2	Roof Calk, confinement window				

SAMPLE TYPE CODES				RELINQUISHED BY	DATE & TIME
BC - Biocassette™	CP - Contact Plate	T - Tape	O - Other:	Ben Boudlev	11/17/26 1100
A1S - Andersen	ST - Spore Trap	SW - Swab			
SAS - Surface Air Sampler	B - Bulk	SO - Soil			
NP - Non-Portable Water	P - Potable Water	D - Dust			

REQUESTED SERVICES	
Non-Culturable	Culturable
Spore Trap	BioCassette™ Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate
Spore Trap	Other Requests
Tap, Swab, Bulk	
Spore Trap Analysis	
Other biological particles - supplement	
Direct Microscopic Exam (Qualitative)	
Quantitative spore count direct exam	
Dust Characterization	
1-Media Surface Fungi (Genus ID + A	
Culturable Air Fungi (Genus ID + Asp	
Gram Stain and Counts (Culturable /	
Legionella culture	
Total Coliform, E.coli (Presenoc/Ab	
QuantTray-Sewage Screen	
OTHER: (please specify test)	
Asbestos in Air - PCM Airborne FI	
Asbestos Bulk - PLM	
Lead (Pb) - Flame AA	
PCR (please specify test)	
Allergens (please specify test)	

APPENDIX D

Inspector Licenses

**BENJAMIN DUPREE
BEYDLER**

DOB: 12-14-1983

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12943	01-30-26



Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

MOLLY NEWELL

DOB: 08-07-1956

Issued: 02-10-2025

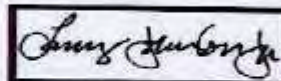


This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12948	01-30-2026

IOWA

Asbestos



**Larry Johnson, Jr.
Labor Commissioner**

LIMITED ASBESTOS INSPECTION REPORT

1038 6th STREET, NEVADA, IA
532-526 K STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247 # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA ACM license #25-12948
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA ACM license #25-12943

INTRODUCTION

This limited asbestos inspection report for the building located at 1038 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The property is currently occupied by a consignment shop which encompasses the lower level of entire parcel, plus the commercial property first floor (street level) at 1032 6th St., 536 K Avenue and 526 K Avenue. A divider wall inside the consignment shop was not observed between 1038 and 1032 6th St. Nor was an interior divider wall noted between 1038 and the adjacent properties to the west: 532 and 526 K Avenue. For these reasons, some overlap in inspection and testing was conducted regarding the interiors of these structures.

The two-story building was observed to be constructed of brick with vertical concrete supports on the periphery, and some plaster over structural brick (original) on interior of peripheral walls. Interiors also exhibited various wood panels and finishes for retail and display purposes. The second story of 1038 6th St. was vacant, which was accessible through a door and stairwell on the west side of 526 K Avenue.

Access to both the lower-level consignment shop and the upper-level (vacant) areas was provided by Mr. Jim Samuelson, who indicated the property had been in his family since 1947.

Limitations:

The inspection was limited to exterior and interior surfaces associated with the façades facing 6th Street and K Avenue.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection and date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

Utilities were not in service for the upper level. The upstairs apartment over the retail space was vacant. Debris was prevalent limiting direct access to some areas.

The intended use of this report is to

- identify locations, concentrations and condition of regulated ACM.
- Estimate quantities of ACM.
- Provide documentation for abatement personnel, as may be warranted.

Methodology:

The inspection was performed in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The inspection took place in keeping with industry standards and direction provided by the CLIENT.

This report itemizes materials and sample location, analytical methods, and results of analytical tests. The approximate square footage/linear footage of the materials testing positive for ACMs are provided together with the approximate locations. Bulk ACM samples were analyzed using polarized light microscopy (PLM) to determine if samples contain asbestos at concentrations equal to or exceeding 1% asbestos.

Attachments to this report include photographs of sample locations, laboratory analytical reports, chain-of-custody forms, and applicable certifications of the site inspectors.

ACM Classification and Terminology:

This inspection was performed to identify homogeneous areas and material suspected to contain asbestos. These materials are then treated as ACM unless samples are taken and they are confirmed to be non-asbestos. The location of the materials suspected of containing asbestos is often documented and then categorized using the following categories:

- Surfacing materials - Interior ACM that has been sprayed on, troweled on, or otherwise applied to surfaces (structural members, walls ceiling, etc.) for acoustical, decorative, fireproofing or other purposes. This includes acoustical plaster, hard plasters (wall or ceiling), fireproofing insulation, spray-applied or blown-in thermal material, joint or patching compound and textured paints or plasters.
- Thermal System Insulation (TSI) - Insulation used to control heat transfer or prevent condensation on pipes and pipe fittings, boilers breeching, tanks, ducts, and other parts of hot and cold water systems; heating ventilation, air conditioning (HVAC) systems; or other mechanical systems. These insulation materials include pipe lagging, pipe wrap, duct insulation, block insulation, cements and muds (often used on fittings), and a variety of other products such as gaskets and ropes.
- Miscellaneous Materials - Other, mostly nonfriable products and materials found on structural components, structural member or fixtures, such as floor tile, ceiling tile, construction mastic for floor and ceiling materials, sheet flooring, fire doors, asbestos cement pipe and board, wallboard, acoustical wall tile, and vibration damping cloth. Miscellaneous materials do not include TSI or surfacing materials.

Accessible Areas:

An accessible area of the building is any area that the survey team is permitted to inspect and that can be inspected without the disassembly of complicated mechanical or rigid structural components of the building. Examples of accessible areas of the building are interior floors, walls, ceilings, areas above suspended ceilings, return air shafts (normally), mechanical piping exteriors, and equipment exteriors, etc.

Damaged Material:

A “Damaged” material contains a few water stains or less than one-tenth of insulation with missing jackets and/or crushed insulation or water stains, gouges, punctures, or mars on up to one-tenth of the insulation if the damage is evenly distributed or up to one-quarter if the damage is localized. These terms are moot if no ACM is in the material.

Inaccessible Areas:

An inaccessible area is any area where inspection access is not permitted or requires a considerable amount of mechanical or structural disassembly to inspect. Inaccessible areas normally only investigated prior to renovation or demolition activities. Examples of inaccessible areas are pipe chases behind solid walls, mechanically encased insulation, or unsafe areas.

Friable Material:

A material, that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure is a friable material. Examples of friable materials include: pipe insulation, boiler or tank insulation, or sprayed-on fireproofing.

Non-friable Material:

A material, that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable materials may become friable through damage or deterioration. Examples of non-friable materials include: intact floor tiles, transite building panels, or well-maintained roofing materials.

Homogeneous Area:

A homogenous area is defined as a group of materials that is uniform in texture and appearance, was installed at one time and is unlikely to consist of more than one type or formation of material.

Significantly Damaged Material:

A “significantly damaged” material contains missing jackets at on a least one-tenth of the piping or equipment and/or crushed, heavily gouged, or punctured insulation on at least on-tenth of pipe runs/risers, boilers, tanks, ducts, etc., if the damage is evenly distributed or one-quarter if the damage is localized.

Presumed Asbestos Containing Material (PACM):

Thermal system insulation (TSI) and surfacing material found in buildings constructed no later than 1980 must be presumed to contain asbestos. The designation of a material as “PACM” may be rebutted pursuant to 29 CFR 1910.1001(j) (8). For remediation work, TSI and sprayed or troweled on surfacing materials must be treated as asbestos-containing, unless a determination is made in compliance with 29 CFR 1926.1101(k) (5) that the material is not asbestos-containing. Asphalt and vinyl flooring material installed prior to 1980 must also be considered as asbestos containing during remediation work unless the employer, pursuant to 29 CFR 1926.1101 (g)(8)(i)(I), determines that it is not asbestos containing.

Regulated Asbestos Containing Material (RACM):

Material composed of asbestos of any type and in an amount greater than one percent by weight, either alone or mixed with other fibrous or non-fibrous material.

Class I, II, III Asbestos Work:

Work activities that will be performed by a trained outside contractor that involve the removal or repair of asbestos-containing thermal system insulation, surfacing materials (e.g. spray-on fireproofing) or other miscellaneous ACM.

Class IV Asbestos Work:

Work that involves the engineering and custodial activities during which employees or subcontractors may contact but do not disturb ACM or PACM. It may involve cleaning in mechanical rooms or removal of equipment or debris in areas where ACM is or may be present.

Laboratory Analytical Results for locations with suspect ACM are provided in the table below.

Refer to the laboratory analytical report for details on the layers within each sample location.

LOCATIONS and SUMMARY FINDINGS SUSPECT ASBESTOS CONTAINING MATERIALS			
Homogeneous Area Number	Material Description	Area Location	Asbestos Content/Type
FT-1	1x1 grey floor tile	1 st fl consignment	No asbestos detected
CT-1	2x4 fissured ceiling tile	1 st fl consignment	No asbestos detected
CB-1	Brown cove base	1 st fl consignment	No asbestos detected
WP-1	White wall plaster	1 st fl consignment	No asbestos detected
WP-2	White wall plaster with skim coat	2 nd floor 532	2% chrysotile asbestos
CP-1	Ceiling plaster	2 nd floor 532	No asbestos detected
FS-1	Floor sheeting	2 nd floor 526	No asbestos detected
FS-2	Floor sheeting	2 nd floor 532	No asbestos detected
FS-3	Floor sheeting	2 nd floor 1038	No asbestos detected
FS-4	Floor sheeting	2 nd floor 1038	No asbestos detected
INS-1	Insulation above 2 nd floor ceiling	2 nd floor 1038	No asbestos detected
RM-1	Black roof membrane	1038 roof	No asbestos detected
FC-1	Grey flashing cement	1038 roof parapet	8% chrysotile asbestos
FC-2	Black flashing cement	1038 roof parapet	No asbestos detected
FC-3	Caulking between coping stones	1038 roof parapet	3% chrysotile asbestos
WG-1	Window glazing	North 1038 exterior	No asbestos detected
WG-2	Window glazing	North 1038 exterior	No asbestos detected
WC-1	Window caulk	North 1038 exterior	3% chrysotile asbestos
WC-3	Window caulk	East 1038 exterior	3% chrysotile asbestos
EC-1	Red wall caulk	NE 1038 exterior	No asbestos detected
EC-2	Red window caulk	East 1038 lower window	No asbestos detected

WP-2 Wall plaster with skim coat on the 2nd floor tested positive for 2% Chrysotile asbestos. The asbestos is contained in the skim coat/texture layer. Approximately 1500 square feet estimated present along exterior wall. Fair condition and nonfriable.

FC-1 Grey flashing cement on the roof parapet wall tested positive for 8% Chrysotile asbestos. The cement is present irregularly along the parapet, particularly on the east side. Approximately 100 square feet estimated present. Fair condition and nonfriable.

FC-3 Caulk between coping stones on the roof parapet wall tested positive for 3% Chrysotile asbestos. Approximately 50 linear feet estimated present. Fair condition and nonfriable.

WC-1/3 Caulking on both the east and north second-floor exterior window frames tested positive for 3% Chrysotile asbestos. Approximately 200 linear feet estimated present. Poor condition and nonfriable.

All questions specific to this report should be addressed to EnviroNET; however, the demolition contractor is responsible for the means and methods of abatement and for compliance with all environmental regulations.

Please call (563) 323-2262 or my cell (563) 340-2440 if we may be of further service on this project. It has been a pleasure to work with you.

Sincerely,

ENVIRONET, INC.



Ben D. Beydler, Ph.D.
Licensed IA ACM Inspector

ENVIRONET, INC.



Molly Newell, PG, CHMM
Licensed IA ACM Inspector

Attachments:

Photographs

Laboratory Analytical Reports

Chain of Custody Documentation

Asbestos License of Inspector

Photographs



View of subject property, looking west. First floor occupied by Consignment Gallery, 2nd floor vacant.



View of subject property, looking southwest across K Street at north side. West side of property is addressed 532 and 526 K Street.



View of sample FT-1: Grey floor tile in consignment shop. No asbestos detected.



View of sample CT-1: Suspended ceiling tile in consignment shop. No asbestos detected.



View of sample CB-1: Brown cove base in consignment shop. No asbestos detected.



View of sample WP-1: White plaster in consignment shop. No asbestos detected.



View of sample WP-2: Wall plaster with skim coat/texture on second floor. 2% chrysotile asbestos.



View of sample CP-1: Ceiling plaster with skim on second floor. No asbestos detected.



View of sample FS-1: Sheet flooring on second floor of 526 K. No asbestos detected.



View of sample FS-2: Sheet flooring on second floor of 526 K. No asbestos detected.



View of sample FS-3: Sheet flooring on second floor of 532 K.
No asbestos detected.



View of sample FS-3: Sheet flooring on second floor. No
asbestos detected.



View of sample INS-1: Loose insulation above second floor
ceiling. No asbestos detected.



View of sample RM-1: Black roof membrane. No asbestos
detected.



View of sample FC-1: Grey flashing cement on parapet wall.
8% chrysotile asbestos.



View of sample FC-2: Black flashing cement on parapet wall..
No asbestos detected.



View of sample FC-3: Caulk between coping stones on
parapet wall. 3% chrysotile asbestos.



View of window caulking/glazing sampling: Window glazing
samples WG-1 and WG-2 did not contain asbestos. Window
caulk samples WC-1 and WC-3 tested positive for 3%
chrysotile asbestos.



View of sample EC-1: Red caulk at northeast exterior. No asbestos detected.



View of sample EC-1: Red caulk on consignment window frame. No asbestos detected.

Laboratory Report and Chain of Custody

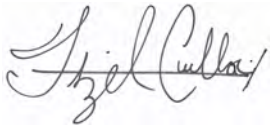
Report for:

Ben Beydler
EnviroNet
One River Place
1225 East River Drive, Suite 101
Davenport, IA 52803

Regarding: Eurofins Built Environment Testing Central, LLC
Project: Nevada ACM; 1038 6th Street, Nevada, IA
EML ID: 4378613

Approved by:

Dates of Analysis:
Asbestos PLM: 01-21-2026



Business Unit Manager
Itzel Cuellar

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EB-AS-S-1267)
NVLAP Lab Code 600194-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins Built Environment Testing Central, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Total Samples Submitted: 27

Total Samples Analyzed: 27

Total Samples with Layer Asbestos Content > 1%: 6

Location: FT-1, Grey 1x1 tile 1038

Lab ID-Version‡: 21947333-1

Sample Layers	Asbestos Content
Gray Floor Tile	ND
Sample Composite Homogeneity:	Good

Comments: Insufficient mastic material present for analysis.

Location: CT-1, 2x4 fissured tile 1038

Lab ID-Version‡: 21947334-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 20% Glass Fibers
Sample Composite Homogeneity:	Good

Location: CB-1, Brown cove base 1038

Lab ID-Version‡: 21947335-1

Sample Layers	Asbestos Content
Brown Baseboard	ND
Sample Composite Homogeneity:	Good

Location: WP-1, Wall plaster 1038

Lab ID-Version‡: 21947336-1

Sample Layers	Asbestos Content
White Plaster	ND
Sample Composite Homogeneity:	Good

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All components not quantified as asbestos content and non-asbestos content are considered to be non-fibrous matrix components. Matrix components may include, but are not limited to, gypsum, paint, silicate minerals, vinyl, binder, calcium carbonate, tar, and foam.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FT-2, Light grey tile 1032

Lab ID-Version‡: 21947337-1

Sample Layers	Asbestos Content
Gray Floor Tile	ND
Yellow Mastic	ND
Sample Composite Homogeneity: Good	

Location: WP-2, Wall plaster 2nd floor

Lab ID-Version‡: 21947338-1

Sample Layers	Asbestos Content
White Compound with Paint	2% Chrysotile
White Plaster	ND
Sample Composite Homogeneity: Moderate	

Location: CP-1, Ceiling plaster 2nd floor

Lab ID-Version‡: 21947339-1

Sample Layers	Asbestos Content
Beige Plaster with Paint	ND
Sample Composite Homogeneity: Good	

Location: FS-1, Floor sheeting 526

Lab ID-Version‡: 21947340-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity: Good	

Location: FS-2, Floor sheeting 532

Lab ID-Version‡: 21947341-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity: Good	

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FS-3, Floor sheeting 1038

Lab ID-Version‡: 21947342-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity:	Good

Location: FS-4, Floor sheeting 1038/1032

Lab ID-Version‡: 21947343-1

Sample Layers	Asbestos Content
Multicolored Sheet Flooring	ND
Composite Non-Asbestos Content:	40% Cellulose
Sample Composite Homogeneity:	Good

Location: INS-1, Insulation above ceiling

Lab ID-Version‡: 21947344-1

Sample Layers	Asbestos Content
Brown Insulation	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Good

Location: RM-1, Black roof membrane

Lab ID-Version‡: 21947345-1

Sample Layers	Asbestos Content
Black Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: FC-1, Grey flashing cement on parapet

Lab ID-Version‡: 21947346-1

Sample Layers	Asbestos Content
Black Roof Flashing	8% Chrysotile
Sample Composite Homogeneity:	Good

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: FC-2, Black flashing on parapet

Lab ID-Version‡: 21947347-1

Sample Layers	Asbestos Content
Black Roof Flashing	ND
Sample Composite Homogeneity: Good	

Location: RF-1, Foam roof covering 1032-1028

Lab ID-Version‡: 21947348-1

Sample Layers	Asbestos Content
White Foam with Paint	ND
Sample Composite Homogeneity: Good	

Location: WP-3, Wall plaster 2nd fl 1032

Lab ID-Version‡: 21947349-1

Sample Layers	Asbestos Content
White Compound with Paint	2% Chrysotile
Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: CB-2, Black cove base 1028

Lab ID-Version‡: 21947350-1

Sample Layers	Asbestos Content
Black Baseboard	ND
Sample Composite Homogeneity: Good	

Location: WG-1, Window glazing N 1038

Lab ID-Version‡: 21947351-1

Sample Layers	Asbestos Content
Gray Window Glazing with Paint	ND
Sample Composite Homogeneity: Good	

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C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: WG-2, Window glazing N 1038

Lab ID-Version‡: 21947352-1

Sample Layers	Asbestos Content
Gray Window Glazing	ND
White Window Glazing	ND
Sample Composite Homogeneity: Moderate	

Location: WC-1, Window glazing N 1038

Lab ID-Version‡: 21947353-1

Sample Layers	Asbestos Content
White Caulk with Paint	3% Chrysotile
Sample Composite Homogeneity: Good	

Location: WC-2, Window caulk 1032

Lab ID-Version‡: 21947354-1

Sample Layers	Asbestos Content
White Caulk with Paint	ND
Sample Composite Homogeneity: Good	

Location: WC-3, Window caulk E 1038

Lab ID-Version‡: 21947355-1

Sample Layers	Asbestos Content
White Caulk with Paint	3% Chrysotile
Sample Composite Homogeneity: Good	

Location: U2-1, Underlayment on 1028 awning

Lab ID-Version‡: 21947356-1

Sample Layers	Asbestos Content
Black Mastic	ND
Sample Composite Homogeneity: Good	

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C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: EC-1, Red caulk 1038 corner

Lab ID-Version‡: 21947357-1

Sample Layers	Asbestos Content
Red Caulk	ND
Gray Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Location: EC-2, Red caulk consignment window

Lab ID-Version‡: 21947358-1

Sample Layers	Asbestos Content
Red Caulk	ND
Gray Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Location: FC-3, Flashing

Lab ID-Version‡: 21981871-1

Sample Layers	Asbestos Content
Gray Non-Fibrous Material	3% Chrysotile
Sample Composite Homogeneity: Good	

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Eurofins Built Environment Testing Central, LLC
1815 West Diehl Road, Suite 800, Naperville, IL 60563
(866) 871-1984 www.eurofinsus.com/Built

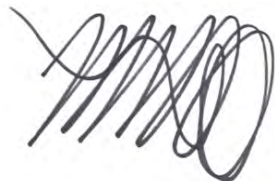
Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1038 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026 and 01-21-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

PROJECT ANALYST AND SIGNATORY REPORT

Project Analyst



Analyst: Kimberly Bugarin

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

East: (866) 871-1984
Central: (800) 651-4802
West: (866) 888-6653

WEATHER	Fog	Rain	Snow	Wind	Clear
None					
Light					
Moderate					
Heavy					

www.eurofinsus.com/Built

CONTACT INFORMATION

Company:	EnviroNET, Inc.	Address:	1225 East River Drive, Suite 101, Davenport, IA 52803
Contact:	Ben Beydler	Special Instructions:	
Phone:	563-323-2262		

PROJECT INFORMATION

Project ID:	Nevada ACM	STD - Standard (Default)
Project Description:	1038 6th Street, Nevada, IA	ND - Next Business Day
Project Zip Code:	50201	SD - Same Business Day
PO Number:	250247	WH - Weekend/holiday/ASAP

TURN AROUND TIME CODES - (TAT)

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

REQUESTED SERVICES

Non-Culturable	Culturable	Other Requests
Spore Trap	BioCassette™ Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate	

004378613

Spore Trap Analysis	
Other biological particles - supplement	
Direct Microscopic Exam (Qualitative)	
Quantitative spore count direct exam	
Dust Characterization	
1-Media Surface Fungi (Genus ID + As)	
Culturable Air Fungi (Genus ID + As)	
Gram Stain and Counts (Culturable)	
Legionella culture	
Total Coliform, E.coli (Presence/A)	
QuantTray-Sewage Screen	
OTHER: (please specify test)	
Asbestos in Air - PCM Airborne	
Asbestos Bulk - PLM	
Lead (Pb) - Flame AA	
PCR (please specify test)	
Allergens (please specify test)	

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)

FT-1	Grout tile, 1038	B	STD		
CT-1	2x4 fissured tile, 1038				
CB-1	Grout core Base, 1038				
WP-1	Wall plaster, 1038				
FT-2	Light grey tile, 1032				
WP-2	Wall plaster 2nd floor				
CP-1	Ceiling plaster, 2nd floor				
FS-1	Floor sheathing, 526				
FS-2	Floor sheathing, 532				
FS-3	Floor sheathing, 1038				
FS-4	Floor sheathing, 1038/1032				
INS-1	Insulation above ceiling				
BM-1	Black roof membrane				
EC-1	Grout filling cement on PARKET				
EC-2	Plastic flooring on PARKET				

SAMPLE TYPE CODES

BC - BioCassette™	CP - Contact Plate	T - Tape	O - Other:
AIS - Andersen	ST - Spore Trap	SW - Swab	
SAS - Surface Air Sampler	B - Bulk	SO - Soil	
NP - Non-potable Water	P - Potable Water	D - Dust	

RELINQUISHED BY

DATE & TIME

RECEIVED BY

DATE & TIME

Ben Beydler

1/15/26 1100

JAN 16 2026 9:45am

East: (866) 871-1984

Central: (800) 651-4802

West: (866) 898-6653

WEATHER	Fog	Rain	Snow	Wind	Clear
None					
Light					
Moderate					
Heavy					

REQUESTED SERVICES		
Non-Culturable	Culturable	Other Requests
Spore Trap	BioCassette™ Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate	

CONTACT INFORMATION

Company: EnvironNET, Inc. Address: 1225 East River Drive, Suite 101, Davenport, IA 52803

Contact: Ben Beydler Special Instructions:

Phone: 563-323-2262

PROJECT INFORMATION

Project ID: Nevada ACM

Project Description: 1038 6th Street, Nevada, IA

Project Zip Code: 50201

Project PO Number: 250247

Sampling Date/Time: 1-13-26

By: BDB

SD - Same Business Day

WH - Weekend/Holiday/ASAP

TURN AROUND TIME CODES - (TAT)

STD - Standard (Default)

ND - Next Business Day

SD - Same Business Day

WH - Weekend/Holiday/ASAP

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

SAMPLE ID

DESCRIPTION

Sample Type (Below)

TAT (Above)

Total Volume/Area (as applicable)

NOTES (Time of day, Temp, RH, etc.)

Spore Trap Analysis

Other biological particles - supplement

Direct Microscopic Exam (Qualitative)

Quantitative spore count direct exam

Dust Characterization

1-Media Surface Fungi (Genus ID + A

Culturable Air Fungi (Genus ID + Asp

Gram Stain and Counts (Culturable /

Legionella culture

Total Coliform, E.coli (Presence/Ab

QuantTray-Sewage Screen

OTHER: (please specify test)

Asbestos in Air - PCM Airborne FI

Asbestos Bulk - PLM

Lead (Pb) - Flame AA

PCR (please specify test)

Allergens (please specify test)

SAMPLE TYPE CODES

BC - BioCassette™ CP - Contact Plate T - Tape O - Other:

AIS - Andersen ST - Spore Trap SW - Swab

SAS - Surface Air Sampler B - Bulk SO - Soil

NP - Non-potable Water P - Potable Water D - Dust

RELINQUISHED BY

DATE & TIME

RECEIVED BY

DATE & TIME

Ben Beydler

1/15/26 (100

004378613

Inspector Licenses

**BENJAMIN DUPREE
BEYDLER**

DOB: 12-14-1983

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12943	01-30-26



Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

MOLLY NEWELL

DOB: 08-07-1956

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12948	01-30-2026

IOWA

Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

LIMITED ASBESTOS INSPECTION REPORT

1104 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247 # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA ACM license #25-12948
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA ACM license #25-12943

INTRODUCTION

This limited asbestos inspection report for the building located at 1104 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The two-story building was observed to be constructed of brick with vertical concrete supports on the periphery, and some plaster over structural brick (original) on interior of peripheral walls. Interiors also exhibited various finishes.

Access to one upper-level apartment (northeast, currently an Air B&B rental) was available; other apartments on the second floor were not accessed. No suspect materials were observed in the second-floor apartment.

Limitations:

The inspection was limited to exterior and interior surfaces associated with the façade facing 6th Street.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection and date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

The intended use of this report is to

- identify locations, concentrations and condition of regulated ACM.
- Estimate quantities of ACM.
- Provide documentation for abatement personnel, as may be warranted.

Methodology:

The inspection was performed in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The inspection took place in keeping with industry standards and direction provided by the CLIENT.

This report itemizes materials and sample location, analytical methods, and results of analytical tests. The approximate square footage/linear footage of the materials testing positive for ACMs are provided together with the approximate locations. Bulk ACM samples were analyzed using polarized light microscopy (PLM) to determine if samples contain asbestos at concentrations equal to or exceeding 1% asbestos.

Attachments to this report include photographs of sample locations, laboratory analytical reports, chain-of-custody forms, and applicable certifications of the site inspectors.

ACM Classification and Terminology:

This inspection was performed to identify homogeneous areas and material suspected to contain asbestos. These materials are then treated as ACM unless samples are taken and they are confirmed to be non-asbestos. The location of the materials suspected of containing asbestos is often documented and then categorized using the following categories:

- Surfacing materials - Interior ACM that has been sprayed on, troweled on, or otherwise applied to surfaces (structural members, walls ceiling, etc.) for acoustical, decorative, fireproofing or other purposes. This includes acoustical plaster, hard plasters (wall or ceiling), fireproofing insulation, spray-applied or blown-in thermal material, joint or patching compound and textured paints or plasters.

- Thermal System Insulation (TSI) - Insulation used to control heat transfer or prevent condensation on pipes and pipe fittings, boilers breeching, tanks, ducts, and other parts of hot and cold water systems; heating ventilation, air conditioning (HVAC) systems; or other mechanical systems. These insulation materials include pipe lagging, pipe wrap, duct insulation, block insulation, cements and muds (often used on fittings), and a variety of other products such as gaskets and ropes.
- Miscellaneous Materials - Other, mostly nonfriable products and materials found on structural components, structural member or fixtures, such as floor tile, ceiling tile, construction mastic for floor and ceiling materials, sheet flooring, fire doors, asbestos cement pipe and board, wallboard, acoustical wall tile, and vibration damping cloth. Miscellaneous materials do not include TSI or surfacing materials.

Accessible Areas:

An accessible area of the building is any area that the survey team is permitted to inspect and that can be inspected without the disassembly of complicated mechanical or rigid structural components of the building. Examples of accessible areas of the building are interior floors, walls, ceilings, areas above suspended ceilings, return air shafts (normally), mechanical piping exteriors, and equipment exteriors, etc.

Damaged Material:

A “Damaged” material contains a few water stains or less than one-tenth of insulation with missing jackets and/or crushed insulation or water stains, gouges, punctures, or mars on up to one-tenth of the insulation if the damage is evenly distributed or up to one-quarter if the damage is localized. These terms are moot if no ACM is in the material.

Inaccessible Areas:

An inaccessible area is any area where inspection access is not permitted or requires a considerable amount of mechanical or structural disassembly to inspect. Inaccessible areas normally only investigated prior to renovation or demolition activities. Examples of inaccessible areas are pipe chases behind solid walls, mechanically encased insulation, or unsafe areas.

Friable Material:

A material, that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure is a friable material. Examples of friable materials include: pipe insulation, boiler or tank insulation, or sprayed-on fireproofing.

Non-friable Material:

A material, that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable materials may become friable through damage or deterioration. Examples of non-friable materials include: intact floor tiles, transite building panels, or well-maintained roofing materials.

Homogeneous Area:

A homogenous area is defined as a group of materials that is uniform in texture and appearance, was installed at one time and is unlikely to consist of more than one type or formation of material.

Significantly Damaged Material:

A “significantly damaged” material contains missing jackets at on a least one-tenth of the piping or equipment and/or crushed, heavily gouged, or punctured insulation on at least on-tenth of pipe runs/risers, boilers, tanks, ducts, etc., if the damage is evenly distributed or one-quarter if the damage is localized.

Presumed Asbestos Containing Material (PACM):

Thermal system insulation (TSI) and surfacing material found in buildings constructed no later than 1980 must be presumed to contain asbestos. The designation of a material as “PACM” may be rebutted pursuant to 29 CFR 1910.1001(j) (8). For remediation work, TSI and sprayed or troweled on surfacing materials must be treated as asbestos-containing, unless a determination is made in compliance with 29 CFR 1926.1101(k) (5) that the material is not asbestos-containing. Asphalt and vinyl flooring material installed prior to 1980 must also be considered as asbestos containing during remediation work unless the employer, pursuant to 29 CFR 1926.1101 (g)(8)(i)(I), determines that it is not asbestos containing.

Regulated Asbestos Containing Material (RACM):

Material composed of asbestos of any type and in an amount greater than one percent by weight, either alone or mixed with other fibrous or non-fibrous material.

Class I, II, III Asbestos Work:

Work activities that will be performed by a trained outside contractor that involve the removal or repair of asbestos-containing thermal system insulation, surfacing materials (e.g. spray-on fireproofing) or other miscellaneous ACM.

Class IV Asbestos Work:

Work that involves the engineering and custodial activities during which employees or subcontractors may contact but do not disturb ACM or PACM. It may involve cleaning in mechanical rooms or removal of equipment or debris in areas where ACM is or may be present.

Laboratory Analytical Results for locations with suspect ACM are provided in the table below.

Refer to the laboratory analytical report for details on the layers within each sample location.

LOCATIONS and SUMMARY FINDINGS SUSPECT ASBESTOS CONTAINING MATERIALS			
Homogeneous Area Number	Material Description	Area Location	Asbestos Content/Type
CT-2	2x4 pinhole ceiling tile	1 st floor	No asbestos detected
CB-1	White cover base	1 st floor	No asbestos detected
RM-1	Black roof membrane	roof	No asbestos detected
RC-1	Caulk at cupola	Roof	No asbestos detected

No suspect materials were determined to contain asbestos

All questions specific to this report should be addressed to EnviroNET; however, the demolition contractor is responsible for the means and methods of abatement and for compliance with all environmental regulations.

Please call (563) 323-2262 or my cell (563) 340-2440 if we may be of further service on this project. It has been a pleasure to work with you.

Sincerely,

ENVIRONET, INC.

ENVIRONET, INC.

Ben D. Beydler, Ph.D.
Licensed IA ACM Inspector
~~Laboratory Analysis Reports~~
Chain of Custody Documentation
Asbestos License of Inspector

Molly Newell, PG, CHMM
Licensed IA ACM Inspector

Photographs



View of subject property, looking northwest. First floor occupied by Lunar Parlor, 2nd floor apartments.



Overview of 1st floor interior. Finishes along exterior walls were primarily drywall with cove base and carpet.



View of sample CT-1: 2x2 pinhole ceiling tile in 1st floor. No asbestos detected.



View of sample CB-1:
White cove base in 1st floor. No asbestos detected.



Overview of roof – black membrane primarily observed.



View of sample RM-1: Black roof membrane.
No asbestos detected.



View of sample RM-1: Caulk on cupola.
No asbestos detected.

View of sample CB-1:
White cove base in 1st floor. No asbestos detected.

Laboratory Report and Chain of Custody

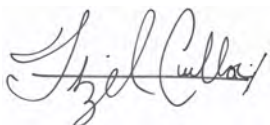
Report for:

Ben Beydler
EnviroNet
One River Place
1225 East River Drive, Suite 101
Davenport, IA 52803

Regarding: Eurofins Built Environment Testing Central, LLC
Project: Nevada ACM; 1110 6th Street, Nevada, IA
EML ID: 4378649

Approved by:

Dates of Analysis:
Asbestos PLM: 01-16-2026



Business Unit Manager
Itzel Cuellar

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EB-AS-S-1267)
NVLAP Lab Code 600194-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins Built Environment Testing Central, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Total Samples Submitted:	8
Total Samples Analyzed:	8
Total Samples with Layer Asbestos Content > 1%:	1

Location: RM-1, Black roof membrane 1104

Lab ID-Version‡: 21947463-1

Sample Layers	Asbestos Content
Black Roofing Material	ND
Sample Composite Homogeneity:	Good

Location: RC-1, Caulk

Lab ID-Version‡: 21947464-1

Sample Layers	Asbestos Content
Gray Caulk	ND
Sample Composite Homogeneity:	Good

Location: RF-1, White roof foam, 1110

Lab ID-Version‡: 21947465-1

Sample Layers	Asbestos Content
White Roofing Material	ND
Yellow Foam	ND
Sample Composite Homogeneity:	Moderate

Location: CT-1, 2x2 tile 1110 unit 2

Lab ID-Version‡: 21947466-1

Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	50% Glass Fibers 30% Cellulose
Sample Composite Homogeneity:	Good

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All components not quantified as asbestos content and non-asbestos content are considered to be non-fibrous matrix components. Matrix components may include, but are not limited to, gypsum, paint, silicate minerals, vinyl, binder, calcium carbonate, tar, and foam.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: DW-1, Drywall ceiling texture unit 2

Lab ID-Version‡: 21947467-1

Sample Layers	Asbestos Content
Brown Fibrous Material	ND
White Ceiling Texture with Paint	2% Chrysotile
Composite Non-Asbestos Content:	60% Cellulose
Sample Composite Homogeneity:	Moderate

Comments: No drywall in sample bag.

Location: CT-2, 2x4 tile 1104

Lab ID-Version‡: 21947468-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 40% Glass Fibers
Sample Composite Homogeneity:	Good

Location: CB-1, White cove base 1104

Lab ID-Version‡: 21947469-1

Sample Layers	Asbestos Content
White Baseboard	ND
Sample Composite Homogeneity:	Good

Location: CT-3, 2x4 tile 1122

Lab ID-Version‡: 21947470-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 40% Glass Fibers
Sample Composite Homogeneity:	Good

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All components not quantified as asbestos content and non-asbestos content are considered to be non-fibrous matrix components. Matrix components may include, but are not limited to, gypsum, paint, silicate minerals, vinyl, binder, calcium carbonate, tar, and foam.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Eurofins Built Environment Testing Central, LLC
1815 West Diehl Road, Suite 800, Naperville, IL 60563
(866) 871-1984 www.eurofinsus.com/Built

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

PROJECT ANALYST AND SIGNATORY REPORT

A handwritten signature in black ink, appearing to be 'AR' with a long horizontal stroke extending to the right.

Analyst: Amber Rutter

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

East: (866) 871-1984
Central: (800) 651-4802
West: (866) 888-6653

WEATHER	Fog	Rain	Snow	Wind	Clear
None					
Light					
Moderate					
Heavy					

CONTACT INFORMATION

Company:	EnvironNET, Inc.	Address:	1225 East River Drive, Suite 101, Davenport, IA 52803
Contact:	Ben Beydler	Special Instructions:	
Phone:	563-323-2262		

PROJECT INFORMATION

Project ID:	Nevada ACM	STD - Standard (Default)
Project Description:	1110 6th Street, Nevada, IA	ND - Next Business Day
Project ZIP Code:	50201	SD - Same Business Day
PO Number:	250247	WH - Weekend/Holiday/ASAP
Sampling Date/Time:	1-13-26	
By:	BDB	

TURN AROUND TIME CODES - (TAT)

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)

RM-1	gym roof membrane, 1104	B	STD		
LC-1	cable on roof				
RF-1	white roof foam, 1110				
CT-1	2x2 tile, 1110 white				
OW-1	ductal ceiling texture, white				
CT-2	2x4 tile, 1104				
CB-1	white concrete, 1104				
CT-3	2x4 tile, 1122				

REQUESTED SERVICES

Non-Culturable	Culturable
Spore Trap	BioCassette™ Andersen, SAS
Spore Syringe	or Requests

004378649

- Spore Trap Analysis
- Other biological particles - supplement
- Direct Microscopic Exam (Qualitative)
- Quantitative spore count direct exam
- Dust Characterization
- 1-Media Surface Fungi (Genus ID + Asp. spp.)
- Culturable Air Fungi (Genus ID + Asp. spp.)
- Gram Stain and Counts (Culturable Air and S)
- Legionella culture
- Total Coliform, E. coli (Presence/Absence)
- QuantTray-Sewage Screen
- OTHER: (please specify test)
- Asbestos in Air - PCM Airborne Fiber Count (N)
- Asbestos Bulk - PLM
- Lead (Pb) - Flame AA
- PCR (please specify test)
- Allergens (please specify test)

SAMPLE TYPE CODES

BC - BioCassette™	CP - Contact Plate	T - Tape	O - Other:
AIS - Andersen	ST - Spore Trap	SW - Swab	
SAS - Surface Air Sampler	B - Bulk	SO - Soil	
NP - Non-potable Water	P - Potable Water	D - Dust	

RELINQUISHED BY

DATE & TIME

Ben Beydler

1/15/26 11:04

RECEIVED BY

DATE & TIME

RECEIVED
JAN 16 2026
4:45 AM

Inspector Licenses

**BENJAMIN DUPREE
BEYDLER**

DOB: 12-14-1983

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12943	01-30-26



Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

MOLLY NEWELL

DOB: 08-07-1956

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12948	01-30-2026

IOWA

Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

LIMITED ASBESTOS INSPECTION REPORT

1110 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247 # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA ACM license #25-12948
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA ACM license #25-12943

INTRODUCTION

This limited asbestos inspection report for the building located at 1110 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The two-story building was observed to be constructed of brick with wood siding on the lower level. The interior on the east side exhibited various finishes, mostly non-suspect. Access to one upper-level apartment (unit #2) was available; other apartments on the second floor were not accessed.

Limitations:

The inspection was limited to exterior and interior surfaces associated with the façade facing 6th Street.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection and date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

The intended use of this report is to

- identify locations, concentrations and condition of regulated ACM.
- Estimate quantities of ACM.
- Provide documentation for abatement personnel, as may be warranted.

Methodology:

The inspection was performed in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The inspection took place in keeping with industry standards and direction provided by the CLIENT.

This report itemizes materials and sample location, analytical methods, and results of analytical tests. The approximate square footage/linear footage of the materials testing positive for ACMs are provided together with the approximate locations. Bulk ACM samples were analyzed using polarized light microscopy (PLM) to determine if samples contain asbestos at concentrations equal to or exceeding 1% asbestos.

Attachments to this report include photographs of sample locations, laboratory analytical reports, chain-of-custody forms, and applicable certifications of the site inspectors. The chain of custody also includes samples from adjoining properties.

ACM Classification and Terminology:

This inspection was performed to identify homogeneous areas and material suspected to contain asbestos. These materials are then treated as ACM unless samples are taken and they are confirmed to be non-asbestos. The location of the materials suspected of containing asbestos is often documented and then categorized using the following categories:

- Surfacing materials - Interior ACM that has been sprayed on, troweled on, or otherwise applied to surfaces (structural members, walls ceiling, etc.) for acoustical, decorative, fireproofing or other purposes. This includes acoustical plaster, hard plasters (wall or ceiling), fireproofing insulation, spray-applied or blown-in thermal material, joint or patching compound and textured paints or plasters.

- Thermal System Insulation (TSI) - Insulation used to control heat transfer or prevent condensation on pipes and pipe fittings, boilers breeching, tanks, ducts, and other parts of hot and cold water systems; heating ventilation, air conditioning (HVAC) systems; or other mechanical systems. These insulation materials include pipe lagging, pipe wrap, duct insulation, block insulation, cements and muds (often used on fittings), and a variety of other products such as gaskets and ropes.
- Miscellaneous Materials - Other, mostly nonfriable products and materials found on structural components, structural member or fixtures, such as floor tile, ceiling tile, construction mastic for floor and ceiling materials, sheet flooring, fire doors, asbestos cement pipe and board, wallboard, acoustical wall tile, and vibration damping cloth. Miscellaneous materials do not include TSI or surfacing materials.

Accessible Areas:

An accessible area of the building is any area that the survey team is permitted to inspect and that can be inspected without the disassembly of complicated mechanical or rigid structural components of the building. Examples of accessible areas of the building are interior floors, walls, ceilings, areas above suspended ceilings, return air shafts (normally), mechanical piping exteriors, and equipment exteriors, etc.

Damaged Material:

A “Damaged” material contains a few water stains or less than one-tenth of insulation with missing jackets and/or crushed insulation or water stains, gouges, punctures, or mars on up to one-tenth of the insulation if the damage is evenly distributed or up to one-quarter if the damage is localized. These terms are moot if no ACM is in the material.

Inaccessible Areas:

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A material, that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure is a friable material. Examples of friable materials include: pipe insulation, boiler or tank insulation, or sprayed-on fireproofing.

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A material, that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable materials may become friable through damage or deterioration. Examples of non-friable materials include: intact floor tiles, transite building panels, or well-maintained roofing materials.

Homogeneous Area:

A homogenous area is defined as a group of materials that is uniform in texture and appearance, was installed at one time and is unlikely to consist of more than one type or formation of material.

Significantly Damaged Material:

A “significantly damaged” material contains missing jackets at on a least one-tenth of the piping or equipment and/or crushed, heavily gouged, or punctured insulation on at least on-tenth of pipe runs/risers, boilers, tanks, ducts, etc., if the damage is evenly distributed or one-quarter if the damage is localized.

Presumed Asbestos Containing Material (PACM):

Thermal system insulation (TSI) and surfacing material found in buildings constructed no later than 1980 must be presumed to contain asbestos. The designation of a material as “PACM” may be rebutted pursuant to 29 CFR 1910.1001(j) (8). For remediation work, TSI and sprayed or troweled on surfacing materials must be treated as asbestos-containing, unless a determination is made in compliance with 29 CFR 1926.1101(k) (5) that the material is not asbestos-containing. Asphalt and vinyl flooring material installed prior to 1980 must also be considered as asbestos containing during remediation work unless the employer, pursuant to 29 CFR 1926.1101 (g)(8)(i)(I), determines that it is not asbestos containing.

Regulated Asbestos Containing Material (RACM):

Material composed of asbestos of any type and in an amount greater than one percent by weight, either alone or mixed with other fibrous or non-fibrous material.

Class I, II, III Asbestos Work:

Work activities that will be performed by a trained outside contractor that involve the removal or repair of asbestos-containing thermal system insulation, surfacing materials (e.g. spray-on fireproofing) or other miscellaneous ACM.

Class IV Asbestos Work:

Work that involves the engineering and custodial activities during which employees or subcontractors may contact but do not disturb ACM or PACM. It may involve cleaning in mechanical rooms or removal of equipment or debris in areas where ACM is or may be present.

Laboratory Analytical Results for locations with suspect ACM are provided in the table below.

Refer to the laboratory analytical report for details on the layers within each sample location.

LOCATIONS and SUMMARY FINDINGS SUSPECT ASBESTOS CONTAINING MATERIALS			
Homogeneous Area Number	Material Description	Area Location	Asbestos Content/Type
CT-1	2x2 ceiling tile	2 nd floor unit 2	No asbestos detected
DW-1	Textured ceiling drywall	2 nd floor unit 2	2% chrysotile asbestos
RF-1	Foam roof covering	Roof	No asbestos detected

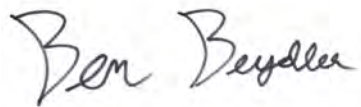
DW-1 Textured ceiling drywall on the 2nd floor tested positive for 2% Chrysotile asbestos. Approximately 1000 square feet estimated present in the unit. Good condition and nonfriable.

All questions specific to this report should be addressed to EnviroNET; however, the demolition contractor is responsible for the means and methods of abatement and for compliance with all environmental regulations.

Please call (563) 323-2262 or my cell (563) 340-2440 if we may be of further service on this project. It has been a pleasure to work with you.

Sincerely,

ENVIRONET, INC.



Ben D. Beydler, Ph.D.
Licensed IA ACM Inspector

ENVIRONET, INC.



Molly Newell, PG, CHMM
Licensed IA ACM Inspector

Attachments:

Photographs

Laboratory Analytical Reports

Chain of Custody Documentation

Asbestos License of Inspector

Photographs



View of subject property, looking northwest. First floor occupied by Kockler Financial, 2nd floor apartments.



View of sample DW-1: Textured drywall ceiling in unit #2. 2% Chrysotile asbestos.



View of sample CT-1: 2x2 ceiling tile in unit #2. No asbestos detected.



Overview of roof. All roofing components covered by foam.

	
View of sample RF-1: Foam roof covering. No asbestos detected.	

Laboratory Report and Chain of Custody

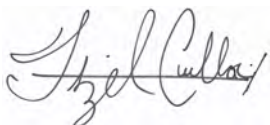
Report for:

Ben Beydler
EnviroNet
One River Place
1225 East River Drive, Suite 101
Davenport, IA 52803

Regarding: Eurofins Built Environment Testing Central, LLC
Project: Nevada ACM; 1110 6th Street, Nevada, IA
EML ID: 4378649

Approved by:

Dates of Analysis:
Asbestos PLM: 01-16-2026



Business Unit Manager
Itzel Cuellar

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EB-AS-S-1267)
NVLAP Lab Code 600194-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins Built Environment Testing Central, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Total Samples Submitted:	8
Total Samples Analyzed:	8
Total Samples with Layer Asbestos Content > 1%:	1

Location: RM-1, Black roof membrane 1104

Lab ID-Version‡: 21947463-1

Sample Layers	Asbestos Content
Black Roofing Material	ND
Sample Composite Homogeneity:	Good

Location: RC-1, Caulk

Lab ID-Version‡: 21947464-1

Sample Layers	Asbestos Content
Gray Caulk	ND
Sample Composite Homogeneity:	Good

Location: RF-1, White roof foam, 1110

Lab ID-Version‡: 21947465-1

Sample Layers	Asbestos Content
White Roofing Material	ND
Yellow Foam	ND
Sample Composite Homogeneity:	Moderate

Location: CT-1, 2x2 tile 1110 unit 2

Lab ID-Version‡: 21947466-1

Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	50% Glass Fibers 30% Cellulose
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

All components not quantified as asbestos content and non-asbestos content are considered to be non-fibrous matrix components. Matrix components may include, but are not limited to, gypsum, paint, silicate minerals, vinyl, binder, calcium carbonate, tar, and foam.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: DW-1, Drywall ceiling texture unit 2

Lab ID-Version‡: 21947467-1

Sample Layers	Asbestos Content
Brown Fibrous Material	ND
White Ceiling Texture with Paint	2% Chrysotile
Composite Non-Asbestos Content:	60% Cellulose
Sample Composite Homogeneity:	Moderate

Comments: No drywall in sample bag.

Location: CT-2, 2x4 tile 1104

Lab ID-Version‡: 21947468-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 40% Glass Fibers
Sample Composite Homogeneity:	Good

Location: CB-1, White cove base 1104

Lab ID-Version‡: 21947469-1

Sample Layers	Asbestos Content
White Baseboard	ND
Sample Composite Homogeneity:	Good

Location: CT-3, 2x4 tile 1122

Lab ID-Version‡: 21947470-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 40% Glass Fibers
Sample Composite Homogeneity:	Good

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Eurofins Built Environment Testing Central, LLC
1815 West Diehl Road, Suite 800, Naperville, IL 60563
(866) 871-1984 www.eurofinsus.com/Built

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

PROJECT ANALYST AND SIGNATORY REPORT

A handwritten signature in black ink, appearing to be 'AR' with a long horizontal stroke extending to the right.

Analyst: Amber Rutter

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East: (866) 871-1984
Central: (800) 651-4802
West: (866) 888-6653

WEATHER	Fog	Rain	Snow	Wind	Clear
None					
Light					
Moderate					
Heavy					

CONTACT INFORMATION

Company:	EnvironNET, Inc.	Address:	1225 East River Drive, Suite 101, Davenport, IA 52803
Contact:	Ben Beydler	Special Instructions:	
Phone:	563-323-2262		

PROJECT INFORMATION

Project ID:	Nevada ACM	STD - Standard (Default)
Project Description:	1110 6th Street, Nevada, IA	ND - Next Business Day
Project ZIP Code:	50201	SD - Same Business Day
PO Number:	250247	WH - Weekend/Holiday/ASAP
Sampling Date/Time:	1-13-26	
By:	BDB	

TURN AROUND TIME CODES - (TAT)

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)

RM-1 g/ltr roof membrane, 1104
LC-1 caulk on eaves
RF-1 white roof foam, 1110
CT-1 2x2 tile, 1110 white
DW-1 natural ceiling texture, white
CT-2 2x4 tile, 1104
CB-1 white concrete, 1104
CT-3 2x4 tile, 1122

- Spore Trap Analysis
Other biological particles - supplement
Direct Microscopic Exam (Qualitative)
Quantitative spore count direct exam
Dust Characterization
1-Media Surface Fungi (Genus ID + Asp. spp.)
Culturable Air Fungi (Genus ID + Asp. spp.)
Gram Stain and Counts (Culturable Air and S)
Legionella culture
Total Coliform, E. coli (Presence/Absence)
QuantTray-Sewage Screen
OTHER: (please specify test)
Asbestos in Air - PCM Airborne Fiber Count (N)
Asbestos Bulk - PLM
Lead (Pb) - Flame AA
PCR (please specify test)
Allergens (please specify test)

REQUESTED SERVICES

Non-Culturable	Culturable
Spore Trap	BioCassette™ Andersen, SAS
Spore Syringe	or Requests

004378649

SAMPLE TYPE CODES

BC - BioCassette™	CP - Contact Plate	T - Tape	O - Other:
AIS - Andersen	ST - Spore Trap	SW - Swab	
SAS - Surface Air Sampler	B - Bulk	SO - Soil	
NP - Non-potable Water	P - Potable Water	D - Dust	

RELINQUISHED BY

Ben Beydler

DATE & TIME

1/15/26 11:04

RECEIVED BY

RECEIVED
JAN 16 2026
4:45 AM

DATE & TIME

Inspector Licenses

**BENJAMIN DUPREE
BEYDLER**

DOB: 12-14-1983

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12943	01-30-26



Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

MOLLY NEWELL

DOB: 08-07-1956

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12948	01-30-2026

IOWA

Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

LIMITED ASBESTOS INSPECTION REPORT

1122 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247 # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA ACM license #25-12948
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA ACM license #25-12943

INTRODUCTION

This limited asbestos inspection report for the building located at 1122 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The two-story building was observed to be constructed of brick. Interiors exhibited various finishes which were generally not suspect. The roof was not accessible but was observed to be encased in roofing foam, which is not suspect.

Limitations:

The inspection was limited to exterior and interior surfaces associated with the façade facing 6th Street.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection and date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

The intended use of this report is to

- identify locations, concentrations and condition of regulated ACM.
- Estimate quantities of ACM.
- Provide documentation for abatement personnel, as may be warranted.

Methodology:

The inspection was performed in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The inspection took place in keeping with industry standards and direction provided by the CLIENT.

This report itemizes materials and sample location, analytical methods, and results of analytical tests. The approximate square footage/linear footage of the materials testing positive for ACMs are provided together with the approximate locations. Bulk ACM samples were analyzed using polarized light microscopy (PLM) to determine if samples contain asbestos at concentrations equal to or exceeding 1% asbestos.

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Refer to the laboratory analytical report for details on the layers within each sample location.

LOCATIONS and SUMMARY FINDINGS SUSPECT ASBESTOS CONTAINING MATERIALS			
Homogeneous Area Number	Material Description	Area Location	Asbestos Content/Type
CT-3	2x4 ceiling tile	2 nd floor	No asbestos detected

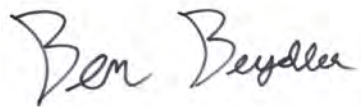
No suspect materials were determined to contain asbestos

All questions specific to this report should be addressed to EnviroNET; however, the demolition contractor is responsible for the means and methods of abatement and for compliance with all environmental regulations.

Please call (563) 323-2262 or my cell (563) 340-2440 if we may be of further service on this project. It has been a pleasure to work with you.

Sincerely,

ENVIRONET, INC.



Ben D. Beydler, Ph.D.
Licensed IA ACM Inspector

ENVIRONET, INC.



Molly Newell, PG, CHMM
Licensed IA ACM Inspector

Attachments:

Photographs

Laboratory Analytical Reports

Chain of Custody Documentation

Asbestos License of Inspector

Photographs



View of subject property, looking west. Both floors occupied by Harmony Clothing.



View of sample CT-3: 2x4 ceiling tile on second floor. No asbestos detected.

Laboratory Report and Chain of Custody

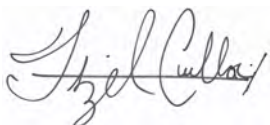
Report for:

Ben Beydler
EnviroNet
One River Place
1225 East River Drive, Suite 101
Davenport, IA 52803

Regarding: Eurofins Built Environment Testing Central, LLC
Project: Nevada ACM; 1110 6th Street, Nevada, IA
EML ID: 4378649

Approved by:

Dates of Analysis:
Asbestos PLM: 01-16-2026



Business Unit Manager
Itzel Cuellar

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EB-AS-S-1267)
NVLAP Lab Code 600194-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

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Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Total Samples Submitted:	8
Total Samples Analyzed:	8
Total Samples with Layer Asbestos Content > 1%:	1

Location: RM-1, Black roof membrane 1104

Lab ID-Version‡: 21947463-1

Sample Layers	Asbestos Content
Black Roofing Material	ND
Sample Composite Homogeneity:	Good

Location: RC-1, Caulk

Lab ID-Version‡: 21947464-1

Sample Layers	Asbestos Content
Gray Caulk	ND
Sample Composite Homogeneity:	Good

Location: RF-1, White roof foam, 1110

Lab ID-Version‡: 21947465-1

Sample Layers	Asbestos Content
White Roofing Material	ND
Yellow Foam	ND
Sample Composite Homogeneity:	Moderate

Location: CT-1, 2x2 tile 1110 unit 2

Lab ID-Version‡: 21947466-1

Sample Layers	Asbestos Content
Gray Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	50% Glass Fibers 30% Cellulose
Sample Composite Homogeneity:	Good

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All components not quantified as asbestos content and non-asbestos content are considered to be non-fibrous matrix components. Matrix components may include, but are not limited to, gypsum, paint, silicate minerals, vinyl, binder, calcium carbonate, tar, and foam.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

Location: DW-1, Drywall ceiling texture unit 2

Lab ID-Version‡: 21947467-1

Sample Layers	Asbestos Content
Brown Fibrous Material	ND
White Ceiling Texture with Paint	2% Chrysotile
Composite Non-Asbestos Content:	60% Cellulose
Sample Composite Homogeneity:	Moderate

Comments: No drywall in sample bag.

Location: CT-2, 2x4 tile 1104

Lab ID-Version‡: 21947468-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 40% Glass Fibers
Sample Composite Homogeneity:	Good

Location: CB-1, White cove base 1104

Lab ID-Version‡: 21947469-1

Sample Layers	Asbestos Content
White Baseboard	ND
Sample Composite Homogeneity:	Good

Location: CT-3, 2x4 tile 1122

Lab ID-Version‡: 21947470-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	40% Cellulose 40% Glass Fibers
Sample Composite Homogeneity:	Good

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Eurofins Built Environment Testing Central, LLC
1815 West Diehl Road, Suite 800, Naperville, IL 60563
(866) 871-1984 www.eurofinsus.com/Built

Client: EnviroNet
C/O: Ben Beydler
Re: Nevada ACM; 1110 6th Street, Nevada, IA

Date of Sampling: 01-13-2026
Date of Receipt: 01-16-2026
Date of Report: 01-21-2026

ASBESTOS PLM REPORT

PROJECT ANALYST AND SIGNATORY REPORT

A handwritten signature in black ink, appearing to be 'AR' with a long horizontal stroke extending to the right.

Analyst: Amber Rutter

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East: (866) 871-1984
Central: (800) 651-4802
West: (866) 888-6653

WEATHER	Fog	Rain	Snow	Wind	Clear
None					
Light					
Moderate					
Heavy					

CONTACT INFORMATION

Company:	EnvironNET, Inc.	Address:	1225 East River Drive, Suite 101, Davenport, IA 52803
Contact:	Ben Beydler	Special Instructions:	
Phone:	563-323-2262		

PROJECT INFORMATION

Project ID:	Nevada ACM	STD - Standard (Default)
Project Description:	1110 6th Street, Nevada, IA	ND - Next Business Day
Project ZIP Code:	50201	SD - Same Business Day
PO Number:	250247	WH - Weekend/Holiday/ASAP
Sampling Date/Time:	1-13-26	
By:	BDB	

TURN AROUND TIME CODES - (TAT)

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)

RM-1	gym roof membrane, 1104	B	STD		
LC-1	cavities on roof				
RF-1	white roof foam, 1110				
CT-1	2x2 tile, 1110 white				
OW-1	ductwork ceiling texture, white				
CT-2	2x4 tile, 1104				
CB-1	white concrete, 1104				
CT-3	2x4 tile, 1122				

SAMPLE TYPE CODES			
BC - BioCassette™	CP - Contact Plate	T - Tape	O - Other:
AIS - Andersen	ST - Spore Trap	SW - Swab	
SAS - Surface Air Sampler	B - Bulk	SO - Soil	
NP - Non-potable Water	P - Potable Water	D - Dust	

RELINQUISHED BY	DATE & TIME
Ben Beydler	1/15/26 11:04

REQUESTED SERVICES	
Non-Culturable	Culturable
Spore Trap	BioCassette™ Andersen, SAS
Spore Tape	or Requests
Direct Microscopic Exam (Qualitative)	
Quantitative spore count direct exam	
Dust Characterization	
1-Media Surface Fungi (Genus ID + Asp. spp.)	
Culturable Air Fungi (Genus ID + Asp. spp.)	
Gram Stain and Counts (Culturable Air and S)	
Legionella culture	
Total Coliform, E. coli (Presence/Absence)	
QuantTray-Sewage Screen	
OTHER: (please specify test)	
Asbestos in Air - PCM Airborne Fiber Count (N)	
Asbestos Bulk - PLM	
Lead (Pb) - Flame AA	
PCR (please specify test)	
Allergens (please specify test)	



004378649



JAN 16 2026

Inspector Licenses

**BENJAMIN DUPREE
BEYDLER**

DOB: 12-14-1983

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12943	01-30-26



Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

MOLLY NEWELL

DOB: 08-07-1956

Issued: 02-10-2025



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12948	01-30-2026

IOWA

Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

Report & Sample DatesDATE RECEIVED: 10/1/2025
REPORT DATE: 10/2/2025**RADON TEST REPORT****Laboratory Certification Info**NRPP: 101132 AL
NRSB: 25ARL003
STATE: RNLAB10006Zhi Chen
Mid-iowa Planning Alliance (mipa)
939 Office Park Rd, Suite 306
Wdm, IA 50265

KIT SERIAL	RADON LEVEL	PROPERTY TESTED	TEST DURATION	STRUCTURE
AA777248	1.7 pCi/L	526 K Ave	Start: 01:34 PM 09/25/2025	Type: Not Provided
ID: 3224184	Margin of Error +/- 0.1 pCi/L	Nevada, IA 50201	End: 12:31 PM 09/29/2025	Floor: 1st Floor
			Duration: 94.95 Hours	Closed: Not Provided

Short Term Radon Tests have an estimated margin of error of $\pm 5\%$ when used according to directions.

Quality Assurance (QA): Sample Type: Short Term. Technology: Activated Charcoal. Device Manufacturer: Eurofins Environment Testing Radon, LLC. Model: RD-1. NRPP Approved Device: AC-8202. NRSB Approved Device: 10325. Device Performance Standard: ANSI-AARST MS-PC 2022. Quality Assurance Standard: ANSI-AARST MS-QA 2023. Lab Methodology: EPA-402-R-92-004. Test instructions designed in accordance with ANSI-AARST MAH-2023. Radon level uncertainty is calculated using a 95% confidence level. One sampler can test up to 2,000 ft². Sampler Deployed by: Zhi Chen. Sampler Retrieved by: Zhi Chen.

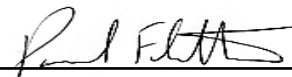
Disclaimer: Results are only indicative of the sample as received in the lab. Incorrect information or improper sampling procedures will affect results. Eurofins Environment Testing Radon, LLC (EETR) did not provide sampling services unless otherwise indicated. Device deployment/retrieval is assumed to be performed by the person submitting the sample, unless otherwise specified by the client. The person(s) performing sampling are responsible for sampling QA, which may include duplicate, blank, and/or spiked detectors. Analysis, laboratory QA, and production QA performed by EETR. Measurements are not necessarily predictive or supportive of measurements conducted at different times or locations. EETR is not responsible for the consequences of any action you do or do not take based on the results. This report may only be reproduced in full, unless authorized in writing by EETR.

Radon Information: Radon is a naturally occurring radioactive gas. It is odorless, colorless, and tasteless. Radon in air is ubiquitous (existing or being everywhere at the same time) and is found in outdoor and indoor air. Radon concentration is measured in picocuries per liter of air (pCi/L). The average indoor concentration is 1.3 pCi/L. The average outdoor concentration is 0.4 pCi/L. Radon is the second leading cause of lung cancer, after smoking. Smokers and former smokers are at especially high risk. Radon exposure is a health risk over long periods of time. The more time you spend in a high radon environment, the greater the risk.

The US Environmental Protection Agency (EPA) and the Surgeon General recommend fixing the building when the radon level is 4 pCi/L or more. Because there is no known safe level of exposure to radon, EPA also recommends considering fixing radon levels between 2 pCi/L and 4 pCi/L. The World Health Organization (WHO) recommends fixing the building when the radon level is 2.7 pCi/L or more.

The process of fixing a radon problem is called mitigation. Even buildings with very high levels can be successfully mitigated. EPA recommends that you use a contractor certified by NRPP, NRSB, or your State (where applicable) to correct radon problems.

Measurement Specialist / Laboratory Director



Paul Fletcher

Date 10/2/2025

IF YOU HAVE QUESTIONS ABOUT WHAT YOUR RESULTS MEAN:EPA National Hotline: (800) 557-2366, [epa.gov/radon](https://www.epa.gov/radon), or, call your State Radon Official: (515) 281-4928**IF YOU HAVE QUESTIONS ABOUT HOW TO FIX A RADON PROBLEM:**Radon Fix-it Hotline: (800) 644-6999, [epa.gov/radon](https://www.epa.gov/radon), or, call your State Radon Official: (515) 281-4928

WHAT DO MY TEST RESULTS MEAN?

Radon concentration is measured in picocuries per liter of air (pCi/L). The average indoor concentration is 1.3 pCi/L. The average outdoor concentration is 0.4 pCi/L. The US Environmental Protection Agency (EPA) action level is 4 pCi/L, meaning that EPA recommends you take further action if your radon level is 4 pCi/L or more. Because there is no known safe level of exposure to radon, EPA also recommends considering further action for radon levels between 2 pCi/L and 4 pCi/L. The World Health Organization action level is 2.7 pCi/L. If this is your first test, retesting is usually advisable. If you have tested multiple times, average the results and use the average to determine the appropriate next steps.

For results **below 2 pCi/L**, you do not need to take further action at this time.

For results **between 2 pCi/L and 4 pCi/L**, consider taking further action. If this is your first test, consider testing again to confirm the initial result. If you have tested multiple times, EPA recommends that you consider fixing the building.

For results **4 pCi/L or greater**, you should take further action. If this is your first test, EPA recommends you conduct another test to confirm the initial reading. If you have tested multiple times, you should fix the building.

If the building has an active radon mitigation system, test annually to confirm the system is working properly. Because radon levels can change, all buildings should be tested at least once every 2 years and whenever the building is renovated.

HOW DANGEROUS IS MY RADON LEVEL?

RADON RISK IF YOU SMOKE

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 770 people could get lung cancer	110 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 380 people could get lung cancer	95 times the risk of dying from poison	Fix your home
20 pCi/L	About 260 people could get lung cancer	250 times the risk of drowning	Fix your home
10 pCi/L	About 150 people could get lung cancer	200 times the risk of dying in a fire	Fix your home
4 pCi/L	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix your home
2 pCi/L	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing between 2 & 4 pCi/L
1.3 pCi/L	About 20 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
0.4 pCi/L	About 3 people could get lung cancer	(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

Note: If you are a former smoker your risk may be lower

Estimates are lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003)

RADON RISK IF YOU HAVE NEVER SMOKED

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 440 people could get lung cancer	63 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 120 people could get lung cancer	30 times the risk of dying from poison	Fix your home
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	20 times the risk of dying in a fire	Fix your home
4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 & 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

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HOW CAN I FIX A RADON PROBLEM?

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We recommend only hiring contractors who are certified and trained in radon mitigation. To find a certified contractor:

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Go to aelabs.com/mitigation for a list of NRPP certified contractors.

The guide below is for buildings without a radon mitigation system. Buildings with an active mitigation system should have radon levels below 4 pCi/L. Contact the contractor who installed your system if your radon test results indicate a radon level at or above 4 pCi/L. Most mitigation systems include a warranty; refer to your contract for details.

Number of Times Tested	Type of Test	Test Result (pCi/L)	What do I do next?	What test do I use? (If retesting)
One	Short Term	Less than 2	Retest every 2 years	Short Term
One	(2-7 days)	Between 2 and 4	Consider retesting now	Long Term or Short Term
One		Between 4 and 8	Retest now	Long Term or Short Term
One		8 or more	Retest now	Short Term
Two or more	Short Term	Less than 2	Retest every 2 years	Short Term
	(2-7 days)	Between 2 and 4	Consider fixing the building	
		4 or More	Fix the building	
One or more	Long Term	Less than 2	Retest every 2 years	Short Term
	(91-365 days)	Between 2 and 4	Consider fixing the building	
		4 or more	Fix the building	

Thank you for using our product. If you have future radon or mold testing needs, below is a coupon to purchase at discounted prices. You can fill out the coupon and return it to us, or order online using the coupon code: RADON22

Mail in form or order online: aelabs.com/buy
Checkout coupon code: RADON22

ALPHA ENERGY
LABORATORIES

2501 Mayes Rd. Suite #100
Carrollton, TX 75006

radon@aelabs.com
Fax: (972) 242-8860

Product	Qty.	Price	Subtotal
Economy Short Term Kit (2 - 4 Days, Kit Only)		\$14.36	
EZ Ship Short Term Kit (Kit + FedEx Ground Return Label)		\$22.46	
Express Short Term Kit (Kit + FedEx 2Day Return Label + Rush Analysis)		\$37.76	
Express Twin Pack (2 Short Term Kits + FedEx 2Day Return Label + Rush Analysis)		\$53.06	
Economy Long Term Kit (90-365 days, Kit Only)		\$27.86	
Economy Radon in Water Kit (Send us a sample of your water, Kit Only)		\$27.86	
Mold Detection Kit (Up to 10 samples, \$15 analysis fee per sample)		\$8.96	

Name _____

Address _____

City _____ State _____ ZIP Code _____

Phone _____

Email _____

Credit Card or Check No. _____ Exp. Date _____

Signature _____

Orders subject to shipping policy and privacy policy, see aelabs.com/pp
Checks can be made to Alpha Energy Labs

Shipping: **FREE**

Total: _____

Coupon Expires 12/31/2025

Report & Sample DatesDATE RECEIVED: 10/1/2025
REPORT DATE: 10/2/2025**RADON TEST REPORT****Laboratory Certification Info**NRPP: 101132 AL
NRSB: 25ARL003
STATE: RNLAB10006Zhi Chen
Mid-iowa Planning Alliance (mipa)
939 Office Park Rd, Suite 306
Wdm, IA 50265

KIT SERIAL	RADON LEVEL	PROPERTY TESTED	TEST DURATION	STRUCTURE
AA777249	1.3 pCi/L	532 K Ave	Start: 01:37 PM 09/25/2025	Type: Not Provided
ID: 3224183	Margin of Error +/- 0.1 pCi/L	Nevada, IA 50201	End: 12:29 PM 09/29/2025	Floor: 1st Floor
			Duration: 94.87 Hours	Closed: Not Provided

Short Term Radon Tests have an estimated margin of error of $\pm 5\%$ when used according to directions.

Quality Assurance (QA): Sample Type: Short Term. Technology: Activated Charcoal. Device Manufacturer: Eurofins Environment Testing Radon, LLC. Model: RD-1. NRPP Approved Device: AC-8202. NRSB Approved Device: 10325. Device Performance Standard: ANSI-AARST MS-PC 2022. Quality Assurance Standard: ANSI-AARST MS-QA 2023. Lab Methodology: EPA-402-R-92-004. Test instructions designed in accordance with ANSI-AARST MAH-2023. Radon level uncertainty is calculated using a 95% confidence level. One sampler can test up to 2,000 ft². Sampler Deployed by: Zhi Chen. Sampler Retrieved by: Zhi Chen.

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Measurement Specialist / Laboratory Director



Paul Fletcher

Date 10/2/2025

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100 pCi/L	About 770 people could get lung cancer	110 times the risk of dying in a car crash	Fix your home
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1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
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Two or more	Short Term	Less than 2	Retest every 2 years	Short Term
	(2-7 days)	Between 2 and 4	Consider fixing the building	
		4 or More	Fix the building	
One or more	Long Term	Less than 2	Retest every 2 years	Short Term
	(91-365 days)	Between 2 and 4	Consider fixing the building	
		4 or more	Fix the building	

Thank you for using our product. If you have future radon or mold testing needs, below is a coupon to purchase at discounted prices. You can fill out the coupon and return it to us, or order online using the coupon code: RADON22

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Express Twin Pack (2 Short Term Kits + FedEx 2Day Return Label + Rush Analysis)		\$53.06	
Economy Long Term Kit (90-365 days, Kit Only)		\$27.86	
Economy Radon in Water Kit (Send us a sample of your water, Kit Only)		\$27.86	
Mold Detection Kit (Up to 10 samples, \$15 analysis fee per sample)		\$8.96	

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Report & Sample DatesDATE RECEIVED: 10/15/2025
REPORT DATE: 10/17/2025**RADON TEST REPORT****Laboratory Certification Info**NRPP: 101132 AL
NRSB: 25ARL003
STATE: RNLAB10006Zhi Chen
Mid-iowa Planning Alliance (mipa)
939 Office Park Rd
West Des Moines, IA 50265

KIT SERIAL	RADON LEVEL	PROPERTY TESTED	TEST DURATION	STRUCTURE
AA698539	2.1 pCi/L	1028 6th St	Start: 10:25 AM 10/08/2025	Type: Not Provided
ID: 3230117	Margin of Error +/- 0.1 pCi/L	Nevada, IA 50201	End: 12:54 PM 10/10/2025	Floor: 1st Floor
			Duration: 50.48 Hours	Closed: Not Provided

Short Term Radon Tests have an estimated margin of error of $\pm 5\%$ when used according to directions.

Quality Assurance (QA): Sample Type: Short Term. Technology: Activated Charcoal. Device Manufacturer: Eurofins Environment Testing Radon, LLC. Model: RD-1. NRPP Approved Device: AC-8202. NRSB Approved Device: 10325. Device Performance Standard: ANSI-AARST MS-PC 2022. Quality Assurance Standard: ANSI-AARST MS-QA 2023. Lab Methodology: EPA-402-R-92-004. Test instructions designed in accordance with ANSI-AARST MAH-2023. Radon level uncertainty is calculated using a 95% confidence level. One sampler can test up to 2,000 ft². Sampler Deployed by: Zhi Chen. Sampler Retrieved by: Zhi Chen.

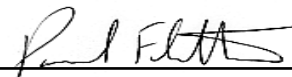
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Radon Information: Radon is a naturally occurring radioactive gas. It is odorless, colorless, and tasteless. Radon in air is ubiquitous (existing or being everywhere at the same time) and is found in outdoor and indoor air. Radon concentration is measured in picocuries per liter of air (pCi/L). The average indoor concentration is 1.3 pCi/L. The average outdoor concentration is 0.4 pCi/L. Radon is the second leading cause of lung cancer, after smoking. Smokers and former smokers are at especially high risk. Radon exposure is a health risk over long periods of time. The more time you spend in a high radon environment, the greater the risk.

The US Environmental Protection Agency (EPA) and the Surgeon General recommend fixing the building when the radon level is 4 pCi/L or more. Because there is no known safe level of exposure to radon, EPA also recommends considering fixing radon levels between 2 pCi/L and 4 pCi/L. The World Health Organization (WHO) recommends fixing the building when the radon level is 2.7 pCi/L or more.

The process of fixing a radon problem is called mitigation. Even buildings with very high levels can be successfully mitigated. EPA recommends that you use a contractor certified by NRPP, NRSB, or your State (where applicable) to correct radon problems.

Measurement Specialist / Laboratory Director



Paul Fletcher

Date 10/17/2025

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For results **below 2 pCi/L**, you do not need to take further action at this time.

For results **between 2 pCi/L and 4 pCi/L**, consider taking further action. If this is your first test, consider testing again to confirm the initial result. If you have tested multiple times, EPA recommends that you consider fixing the building.

For results **4 pCi/L or greater**, you should take further action. If this is your first test, EPA recommends you conduct another test to confirm the initial reading. If you have tested multiple times, you should fix the building.

If the building has an active radon mitigation system, test annually to confirm the system is working properly. Because radon levels can change, all buildings should be tested at least once every 2 years and whenever the building is renovated.

HOW DANGEROUS IS MY RADON LEVEL?

RADON RISK IF YOU SMOKE

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 770 people could get lung cancer	110 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 380 people could get lung cancer	95 times the risk of dying from poison	Fix your home
20 pCi/L	About 260 people could get lung cancer	250 times the risk of drowning	Fix your home
10 pCi/L	About 150 people could get lung cancer	200 times the risk of dying in a fire	Fix your home
4 pCi/L	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix your home
2 pCi/L	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing between 2 & 4 pCi/L
1.3 pCi/L	About 20 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
0.4 pCi/L	About 3 people could get lung cancer	(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

Note: If you are a former smoker your risk may be lower

Estimates are lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003)

RADON RISK IF YOU HAVE NEVER SMOKED

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 440 people could get lung cancer	63 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 120 people could get lung cancer	30 times the risk of dying from poison	Fix your home
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	20 times the risk of dying in a fire	Fix your home
4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 & 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

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Go to aels.com/mitigation for a list of NRPP certified contractors.

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Number of Times Tested	Type of Test	Test Result (pCi/L)	What do I do next?	What test do I use? (If retesting)
One	Short Term	Less than 2	Retest every 2 years	Short Term
One	(2-7 days)	Between 2 and 4	Consider retesting now	Long Term or Short Term
One		Between 4 and 8	Retest now	Long Term or Short Term
One		8 or more	Retest now	Short Term
Two or more	Short Term	Less than 2	Retest every 2 years	Short Term
	(2-7 days)	Between 2 and 4	Consider fixing the building	
		4 or More	Fix the building	
One or more	Long Term	Less than 2	Retest every 2 years	Short Term
	(91-365 days)	Between 2 and 4	Consider fixing the building	
		4 or more	Fix the building	

Report & Sample DatesDATE RECEIVED: 10/1/2025
REPORT DATE: 10/2/2025**RADON TEST REPORT****Laboratory Certification Info**NRPP: 101132 AL
NRSB: 25ARL003
STATE: RNLAB10006Zhi Chen
Mid-iowa Planning Alliance (mipa)
939 Office Park Rd, Suite 306
Wdm, IA 50265

KIT SERIAL	RADON LEVEL	PROPERTY TESTED	TEST DURATION	STRUCTURE
AA777250	1.6 pCi/L	1032 6th St	Start: 01:54 PM 09/25/2025	Type: Not Provided
ID: 3224190	Margin of Error +/- 0.1 pCi/L	Nevada, IA 50201	End: 12:25 PM 09/29/2025	Floor: 1st Floor
			Duration: 94.52 Hours	Closed: Not Provided

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Quality Assurance (QA): Sample Type: Short Term. Technology: Activated Charcoal. Device Manufacturer: Eurofins Environment Testing Radon, LLC. Model: RD-1. NRPP Approved Device: AC-8202. NRSB Approved Device: 10325. Device Performance Standard: ANSI-AARST MS-PC 2022. Quality Assurance Standard: ANSI-AARST MS-QA 2023. Lab Methodology: EPA-402-R-92-004. Test instructions designed in accordance with ANSI-AARST MAH-2023. Radon level uncertainty is calculated using a 95% confidence level. One sampler can test up to 2,000 ft². Sampler Deployed by: Zhi Chen. Sampler Retrieved by: Zhi Chen.

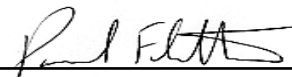
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Measurement Specialist / Laboratory Director



Paul Fletcher

Date 10/2/2025

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40 pCi/L	About 380 people could get lung cancer	95 times the risk of dying from poison	Fix your home
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4 pCi/L	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix your home
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1.3 pCi/L	About 20 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
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Estimates are lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003)

RADON RISK IF YOU HAVE NEVER SMOKED

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 440 people could get lung cancer	63 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 120 people could get lung cancer	30 times the risk of dying from poison	Fix your home
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
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4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 & 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

Note: If you are a former smoker your risk may be higher

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Number of Times Tested	Type of Test	Test Result (pCi/L)	What do I do next?	What test do I use? (If retesting)
One	Short Term	Less than 2	Retest every 2 years	Short Term
One	(2-7 days)	Between 2 and 4	Consider retesting now	Long Term or Short Term
One		Between 4 and 8	Retest now	Long Term or Short Term
One		8 or more	Retest now	Short Term
Two or more	Short Term	Less than 2	Retest every 2 years	Short Term
	(2-7 days)	Between 2 and 4	Consider fixing the building	
		4 or More	Fix the building	
One or more	Long Term	Less than 2	Retest every 2 years	Short Term
	(91-365 days)	Between 2 and 4	Consider fixing the building	
		4 or more	Fix the building	

Thank you for using our product. If you have future radon or mold testing needs, below is a coupon to purchase at discounted prices. You can fill out the coupon and return it to us, or order online using the coupon code: RADON22

Mail in form or order online: aelabs.com/buy
Checkout coupon code: RADON22

ALPHA ENERGY
LABORATORIES

2501 Mayes Rd. Suite #100
Carrollton, TX 75006

radon@aelabs.com
Fax: (972) 242-8860

Product	Qty.	Price	Subtotal
Economy Short Term Kit (2 - 4 Days, Kit Only)		\$14.36	
EZ Ship Short Term Kit (Kit + FedEx Ground Return Label)		\$22.46	
Express Short Term Kit (Kit + FedEx 2Day Return Label + Rush Analysis)		\$37.76	
Express Twin Pack (2 Short Term Kits + FedEx 2Day Return Label + Rush Analysis)		\$53.06	
Economy Long Term Kit (90-365 days, Kit Only)		\$27.86	
Economy Radon in Water Kit (Send us a sample of your water, Kit Only)		\$27.86	
Mold Detection Kit (Up to 10 samples, \$15 analysis fee per sample)		\$8.96	

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Email _____
Credit Card or Check No. _____ Exp. Date _____

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Checks can be made to Alpha Energy Labs

Shipping: **FREE**

Total: _____

Signature _____

Coupon Expires 12/31/2025

Report & Sample DatesDATE RECEIVED: 10/1/2025
REPORT DATE: 10/2/2025**RADON TEST REPORT****Laboratory Certification Info**NRPP: 101132 AL
NRSB: 25ARL003
STATE: RNLAB10006Zhi Chen
Mid-iowa Planning Alliance (mipa)
939 Office Park Rd, Suite 306
Wdm, IA 50265

KIT SERIAL	RADON LEVEL	PROPERTY TESTED	TEST DURATION	STRUCTURE
AA777252	<1.3 pCi/L *	1038 6th St	Start: 01:49 PM 09/25/2025	Type: Not Provided
ID: 3224186	Margin of Error +/- 0.1 pCi/L	Nevada, IA 50201	End: 12:27 PM 09/29/2025	Floor: 1st Floor
			Duration: 94.63 Hours	Closed: Not Provided

Short Term Radon Tests have an estimated margin of error of $\pm 5\%$ when used according to directions.*The measured radon level was lower than the Minimum Detectable Concentration (MDC). Visit aelabs.com/MDC for info.

Quality Assurance (QA): Sample Type: Short Term. Technology: Activated Charcoal. Device Manufacturer: Eurofins Environment Testing Radon, LLC. Model: RD-1. NRPP Approved Device: AC-8202. NRSB Approved Device: 10325. Device Performance Standard: ANSI-AARST MS-PC 2022. Quality Assurance Standard: ANSI-AARST MS-QA 2023. Lab Methodology: EPA-402-R-92-004. Test instructions designed in accordance with ANSI-AARST MAH-2023. Radon level uncertainty is calculated using a 95% confidence level. One sampler can test up to 2,000 ft². Sampler Deployed by: Zhi Chen. Sampler Retrieved by: Zhi Chen.

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Measurement Specialist / Laboratory Director



Paul Fletcher

Date 10/2/2025

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0.4 pCi/L	About 3 people could get lung cancer	(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

Note: If you are a former smoker your risk may be lower

Estimates are lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003)

RADON RISK IF YOU HAVE NEVER SMOKED

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 440 people could get lung cancer	63 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 120 people could get lung cancer	30 times the risk of dying from poison	Fix your home
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	20 times the risk of dying in a fire	Fix your home
4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 & 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

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Number of Times Tested	Type of Test	Test Result (pCi/L)	What do I do next?	What test do I use? (If retesting)
One	Short Term	Less than 2	Retest every 2 years	Short Term
One	(2-7 days)	Between 2 and 4	Consider retesting now	Long Term or Short Term
One		Between 4 and 8	Retest now	Long Term or Short Term
One		8 or more	Retest now	Short Term
Two or more	Short Term	Less than 2	Retest every 2 years	Short Term
	(2-7 days)	Between 2 and 4	Consider fixing the building	
		4 or More	Fix the building	
One or more	Long Term	Less than 2	Retest every 2 years	Short Term
	(91-365 days)	Between 2 and 4	Consider fixing the building	
		4 or more	Fix the building	

Thank you for using our product. If you have future radon or mold testing needs, below is a coupon to purchase at discounted prices. You can fill out the coupon and return it to us, or order online using the coupon code: RADON22

Mail in form or order online: aelabs.com/buy
Checkout coupon code: RADON22

ALPHA ENERGY
LABORATORIES

2501 Mayes Rd. Suite #100
Carrollton, TX 75006

radon@aelabs.com
Fax: (972) 242-8860

Product	Qty.	Price	Subtotal
Economy Short Term Kit (2 - 4 Days, Kit Only)		\$14.36	
EZ Ship Short Term Kit (Kit + FedEx Ground Return Label)		\$22.46	
Express Short Term Kit (Kit + FedEx 2Day Return Label + Rush Analysis)		\$37.76	
Express Twin Pack (2 Short Term Kits + FedEx 2Day Return Label + Rush Analysis)		\$53.06	
Economy Long Term Kit (90-365 days, Kit Only)		\$27.86	
Economy Radon in Water Kit (Send us a sample of your water, Kit Only)		\$27.86	
Mold Detection Kit (Up to 10 samples, \$15 analysis fee per sample)		\$8.96	

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Total: _____

Coupon Expires 12/31/2025

Report & Sample DatesDATE RECEIVED: 10/1/2025
REPORT DATE: 10/2/2025**RADON TEST REPORT****Laboratory Certification Info**NRPP: 101132 AL
NRSB: 25ARL003
STATE: RNLAB10006Zhi Chen
Mid-iowa Planning Alliance (mipa)
939 Office Park Rd, Suite 306
Wdm, IA 50265

KIT SERIAL	RADON LEVEL	PROPERTY TESTED	TEST DURATION	STRUCTURE
AA777253	2.8 pCi/L	1104 6th St	Start: 02:16 PM 09/25/2025	Type: Not Provided
ID: 3224188	Margin of Error +/- 0.1 pCi/L	Nevada, IA 50201	End: 12:40 PM 09/29/2025	Floor: 1st Floor
			Duration: 94.4 Hours	Closed: Not Provided

Short Term Radon Tests have an estimated margin of error of $\pm 5\%$ when used according to directions.

Quality Assurance (QA): Sample Type: Short Term. Technology: Activated Charcoal. Device Manufacturer: Eurofins Environment Testing Radon, LLC. Model: RD-1. NRPP Approved Device: AC-8202. NRSB Approved Device: 10325. Device Performance Standard: ANSI-AARST MS-PC 2022. Quality Assurance Standard: ANSI-AARST MS-QA 2023. Lab Methodology: EPA-402-R-92-004. Test instructions designed in accordance with ANSI-AARST MAH-2023. Radon level uncertainty is calculated using a 95% confidence level. One sampler can test up to 2,000 ft². Sampler Deployed by: Zhi Chen. Sampler Retrieved by: Zhi Chen.

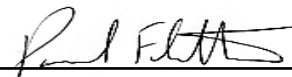
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Radon Information: Radon is a naturally occurring radioactive gas. It is odorless, colorless, and tasteless. Radon in air is ubiquitous (existing or being everywhere at the same time) and is found in outdoor and indoor air. Radon concentration is measured in picocuries per liter of air (pCi/L). The average indoor concentration is 1.3 pCi/L. The average outdoor concentration is 0.4 pCi/L. Radon is the second leading cause of lung cancer, after smoking. Smokers and former smokers are at especially high risk. Radon exposure is a health risk over long periods of time. The more time you spend in a high radon environment, the greater the risk.

The US Environmental Protection Agency (EPA) and the Surgeon General recommend fixing the building when the radon level is 4 pCi/L or more. Because there is no known safe level of exposure to radon, EPA also recommends considering fixing radon levels between 2 pCi/L and 4 pCi/L. The World Health Organization (WHO) recommends fixing the building when the radon level is 2.7 pCi/L or more.

The process of fixing a radon problem is called mitigation. Even buildings with very high levels can be successfully mitigated. EPA recommends that you use a contractor certified by NRPP, NRSB, or your State (where applicable) to correct radon problems.

Measurement Specialist / Laboratory Director



Paul Fletcher

Date 10/2/2025

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Radon concentration is measured in picocuries per liter of air (pCi/L). The average indoor concentration is 1.3 pCi/L. The average outdoor concentration is 0.4 pCi/L. The US Environmental Protection Agency (EPA) action level is 4 pCi/L, meaning that EPA recommends you take further action if your radon level is 4 pCi/L or more. Because there is no known safe level of exposure to radon, EPA also recommends considering further action for radon levels between 2 pCi/L and 4 pCi/L. The World Health Organization action level is 2.7 pCi/L. If this is your first test, retesting is usually advisable. If you have tested multiple times, average the results and use the average to determine the appropriate next steps.

For results **below 2 pCi/L**, you do not need to take further action at this time.

For results **between 2 pCi/L and 4 pCi/L**, consider taking further action. If this is your first test, consider testing again to confirm the initial result. If you have tested multiple times, EPA recommends that you consider fixing the building.

For results **4 pCi/L or greater**, you should take further action. If this is your first test, EPA recommends you conduct another test to confirm the initial reading. If you have tested multiple times, you should fix the building.

If the building has an active radon mitigation system, test annually to confirm the system is working properly. Because radon levels can change, all buildings should be tested at least once every 2 years and whenever the building is renovated.

HOW DANGEROUS IS MY RADON LEVEL?

RADON RISK IF YOU SMOKE

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 770 people could get lung cancer	110 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 380 people could get lung cancer	95 times the risk of dying from poison	Fix your home
20 pCi/L	About 260 people could get lung cancer	250 times the risk of drowning	Fix your home
10 pCi/L	About 150 people could get lung cancer	200 times the risk of dying in a fire	Fix your home
4 pCi/L	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix your home
2 pCi/L	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing between 2 & 4 pCi/L
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RADON RISK IF YOU HAVE NEVER SMOKED

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 440 people could get lung cancer	63 times the risk of dying in a car crash	Fix your home
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One	Short Term	Less than 2	Retest every 2 years	Short Term
One	(2-7 days)	Between 2 and 4	Consider retesting now	Long Term or Short Term
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One		8 or more	Retest now	Short Term
Two or more	Short Term	Less than 2	Retest every 2 years	Short Term
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One or more	Long Term	Less than 2	Retest every 2 years	Short Term
	(91-365 days)	Between 2 and 4	Consider fixing the building	
		4 or more	Fix the building	

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Product	Qty.	Price	Subtotal
Economy Short Term Kit (2 - 4 Days, Kit Only)		\$14.36	
EZ Ship Short Term Kit (Kit + FedEx Ground Return Label)		\$22.46	
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Total: _____

Signature _____

Coupon Expires 12/31/2025

Report & Sample Dates

DATE RECEIVED: 10/15/2025
REPORT DATE: 10/17/2025

RADON TEST REPORT

Laboratory Certification Info

NRPP: 101132 AL
NRSB: 25ARL003
STATE: RNLAB10006

Zhi Chen
Mid-iowa Planning Alliance (mipa)
939 Office Park Rd
West Des Moines, IA 50265

KIT SERIAL	RADON LEVEL	PROPERTY TESTED	TEST DURATION	STRUCTURE
AA698540	3.6 pCi/L	1110 6th St	Start: 10:32 AM 10/08/2025	Type: Not Provided
ID: 3230118	Margin of Error +/- 0.2 pCi/L	Nevada, IA 50201	End: 01:02 PM 10/10/2025	Floor: 1st Floor
			Duration: 50.5 Hours	Closed: Not Provided

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Quality Assurance (QA): Sample Type: Short Term. Technology: Activated Charcoal. Device Manufacturer: Eurofins Environment Testing Radon, LLC. Model: RD-1. NRPP Approved Device: AC-8202. NRSB Approved Device: 10325. Device Performance Standard: ANSI-AARST MS-PC 2022. Quality Assurance Standard: ANSI-AARST MS-QA 2023. Lab Methodology: EPA-402-R-92-004. Test instructions designed in accordance with ANSI-AARST MAH-2023. Radon level uncertainty is calculated using a 95% confidence level. One sampler can test up to 2,000 ft². Sampler Deployed by: Zhi Chen. Sampler Retrieved by: Zhi Chen.

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Measurement Specialist / Laboratory Director



Paul Fletcher

Date 10/17/2025

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One		Between 4 and 8	Retest now	Long Term or Short Term
One		8 or more	Retest now	Short Term
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	(2-7 days)	Between 2 and 4	Consider fixing the building	
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One or more	Long Term	Less than 2	Retest every 2 years	Short Term
	(91-365 days)	Between 2 and 4	Consider fixing the building	
		4 or more	Fix the building	

Report & Sample DatesDATE RECEIVED: 10/1/2025
REPORT DATE: 10/2/2025**RADON TEST REPORT****Laboratory Certification Info**NRPP: 101132 AL
NRSB: 25ARL003
STATE: RNLAB10006Zhi Chen
Mid-iowa Planning Alliance (mipa)
939 Office Park Rd, Suite 306
Wdm, IA 50265

KIT SERIAL	RADON LEVEL	PROPERTY TESTED	TEST DURATION	STRUCTURE
AA777255	2.4 pCi/L	1122 6th St	Start: 02:10 PM 09/25/2025	Type: Not Provided
ID: 3224187	Margin of Error +/- 0.1 pCi/L	Nevada, IA 50201	End: 12:51 PM 09/29/2025	Floor: 1st Floor
			Duration: 94.68 Hours	Closed: Not Provided

Short Term Radon Tests have an estimated margin of error of $\pm 5\%$ when used according to directions.

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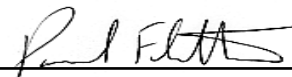
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Paul Fletcher

Date 10/2/2025

IF YOU HAVE QUESTIONS ABOUT WHAT YOUR RESULTS MEAN:EPA National Hotline: (800) 557-2366, [epa.gov/radon](https://www.epa.gov/radon), or, call your State Radon Official: (515) 281-4928**IF YOU HAVE QUESTIONS ABOUT HOW TO FIX A RADON PROBLEM:**Radon Fix-it Hotline: (800) 644-6999, [epa.gov/radon](https://www.epa.gov/radon), or, call your State Radon Official: (515) 281-4928

WHAT DO MY TEST RESULTS MEAN?

Radon concentration is measured in picocuries per liter of air (pCi/L). The average indoor concentration is 1.3 pCi/L. The average outdoor concentration is 0.4 pCi/L. The US Environmental Protection Agency (EPA) action level is 4 pCi/L, meaning that EPA recommends you take further action if your radon level is 4 pCi/L or more. Because there is no known safe level of exposure to radon, EPA also recommends considering further action for radon levels between 2 pCi/L and 4 pCi/L. The World Health Organization action level is 2.7 pCi/L. If this is your first test, retesting is usually advisable. If you have tested multiple times, average the results and use the average to determine the appropriate next steps.

For results **below 2 pCi/L**, you do not need to take further action at this time.

For results **between 2 pCi/L and 4 pCi/L**, consider taking further action. If this is your first test, consider testing again to confirm the initial result. If you have tested multiple times, EPA recommends that you consider fixing the building.

For results **4 pCi/L or greater**, you should take further action. If this is your first test, EPA recommends you conduct another test to confirm the initial reading. If you have tested multiple times, you should fix the building.

If the building has an active radon mitigation system, test annually to confirm the system is working properly. Because radon levels can change, all buildings should be tested at least once every 2 years and whenever the building is renovated.

HOW DANGEROUS IS MY RADON LEVEL?

RADON RISK IF YOU SMOKE

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 770 people could get lung cancer	110 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 380 people could get lung cancer	95 times the risk of dying from poison	Fix your home
20 pCi/L	About 260 people could get lung cancer	250 times the risk of drowning	Fix your home
10 pCi/L	About 150 people could get lung cancer	200 times the risk of dying in a fire	Fix your home
4 pCi/L	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix your home
2 pCi/L	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing between 2 & 4 pCi/L
1.3 pCi/L	About 20 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
0.4 pCi/L	About 3 people could get lung cancer	(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

Note: If you are a former smoker your risk may be lower

Estimates are lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003)

RADON RISK IF YOU HAVE NEVER SMOKED

Radon Level	If 1,000 people were exposed to this level over a lifetime	The risk of radon induced lung cancer compares to	What To Do Next?
100 pCi/L	About 440 people could get lung cancer	63 times the risk of dying in a car crash	Fix your home
40 pCi/L	About 120 people could get lung cancer	30 times the risk of dying from poison	Fix your home
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	20 times the risk of dying in a fire	Fix your home
4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 & 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing below 1 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	(Reducing below 1 pCi/L is difficult)

Note: If you are a former smoker your risk may be higher

Estimates are lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003)

HOW CAN I FIX A RADON PROBLEM?

The process of fixing a radon problem is called mitigation. Mitigation is highly effective at lowering radon levels. If your radon level is 4 pCi/L or more, you should fix the building. If your radon level is between 2 pCi/L and 4 pCi/L, you should consider fixing the building. There is no known safe level of radon, and levels below 4 pCi/L still pose a significant health risk. In most cases, radon levels can be lowered below 2 pCi/L.

We recommend only hiring contractors who are certified and trained in radon mitigation. To find a certified contractor:

Call your State Radon Official at (515) 281-4928 or go to aelabs.com/states

Go to aelabs.com/mitigation for a list of NRPP certified contractors.

The guide below is for buildings without a radon mitigation system. Buildings with an active mitigation system should have radon levels below 4 pCi/L. Contact the contractor who installed your system if your radon test results indicate a radon level at or above 4 pCi/L. Most mitigation systems include a warranty; refer to your contract for details.

Number of Times Tested	Type of Test	Test Result (pCi/L)	What do I do next?	What test do I use? (If retesting)
One	Short Term	Less than 2	Retest every 2 years	Short Term
One	(2-7 days)	Between 2 and 4	Consider retesting now	Long Term or Short Term
One		Between 4 and 8	Retest now	Long Term or Short Term
One		8 or more	Retest now	Short Term
Two or more	Short Term	Less than 2	Retest every 2 years	Short Term
	(2-7 days)	Between 2 and 4	Consider fixing the building	
		4 or More	Fix the building	
One or more	Long Term	Less than 2	Retest every 2 years	Short Term
	(91-365 days)	Between 2 and 4	Consider fixing the building	
		4 or more	Fix the building	

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INSPECTION REPORT LEAD-BASED PAINT

532 and 526 K AVENUE, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247_LBP CONTRACT # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

INTRODUCTION

This Lead-Based Paint (LBP) Inspection Report is specific for 532 and 526 K Avenue, Nevada, Iowa. These structures are adjacent to each other, with 1038 6th Street located east of the subject structure 532 K Avenue. The conjoined space on the ground floor level extends to the corner of K Ave and 6th Street. This LBP inspection was performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The lower level of this property is currently occupied by a consignment shop which extends to the lower levels of 1038 and 1032 6th Street. A divider wall inside the consignment shop was not observed between 1038 and the adjacent properties to the west: 532 and 526 K Avenue. A divider curtain was observed separating storage areas in the western portion of the consignment shop from the 6th Street entrance area. The addresses for this report were evaluated together with the consignment shop at 1038, therefore, some overlap of inspection and testing was conducted regarding the interiors and exteriors of these structures.

The two-story building was observed to be constructed of brick with vertical concrete supports on the periphery, and some plaster over structural brick (original) on interior of peripheral walls. Interiors also exhibited various wood panels and finishes for retail and display purposes. The second story of both 532 and 526 K Avenue was accessible through a door and stairwell on the west side of 526 K Avenue. The upstairs was vacant with debris present. Paint was not observed on window components.

Access to both the lower level consignment shop and the upper-level (vacant) areas was provided by Mr. Jim Samuelson, who indicated the property had been in his family since 1947.

Limitations:

The inspection was limited to exterior and interior painted, shellacked or varnished surfaces associated with the façades facing K Avenue. Exterior soils and interior dust were not included in the scope of work because 1) exterior soils subject to applicable rules were not identified around the building foundation and 2) dust wipe sampling was not applicable at time of inspection.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection vs. date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

Utilities were not turned on for the upper level. The former apartments over the retail space were vacant. Debris was prevalent, limiting direct access to some areas.

This inspection is not a comprehensive LBP Inspection as defined by the United States Department of Housing and Urban Development (HUD) 24 CFR Part 35 Subpart R and HUD Guidelines for Evaluation and Control of LBP hazards in Housing Chapter 7, revision 2012 based on limitations specified above. The structure does not currently meet the criteria of a regulated facility under IEPA or HUD regulations. Even so, HUD protocols are the industry standard and HUD-like protocols and inspection criteria were followed as discussed below in Governing protocols.

The intended use of this report is to:

- identify locations and concentrations of regulated lead-based paint along with paint condition,
- protect workers during deconstruction and renovation,
- minimize the potential for lead dust to become airborne, and
- ensure appropriate management of lead waste.

Professional service guidance will be provided by EnviroNET to the City of Nevada upon request regarding contractor services to:

- control or eliminate lead-based paint hazards going forward,
- ensure work involving LBP is performed by certified and trained workers in accordance with EPA's Renovation, Repair and Painting (RRR) Rule
- provide residents with proper notices and disclosures about the presence and hazards of LBP as required under Subpart B of 24 CFR Part 35,
- perform clearance procedures after hazard control work, including proper testing by certified risk assessors and / or clearance technicians,
- Keep and submit records demonstrating compliance with the Lead Safe Housing Rule.

If portions of the facility with LBP are renovated for residential occupancy, environmental closure of LBP remediation should be documented as well as issuance of lead-safe literature for occupants.

Scope of Work

Painted, varnished and shellacked surfaces on both floors of the facility were assessed on an area-by-area and surface by surface basis using an X-ray Fluorescence (XRF) instrument designed for this specialty purpose. Exterior elements of the exterior façade were inspected and assessed with the XRF meter. Field activities were conducted on January 13, 2026, by two qualified and licensed EnviroNET employees.

Observation determined current construction of 532 and 526 K Avenue occupies a rectangular shaped footprint with adjoining structures and common walls. Adjoining structures were also evaluated for LBP with results provided under separate cover. In some instances, inspection observations pertain to more than one address due to the configuration of original construction.

This report documents compliance with contract obligations, including narrative and tabular presentation of findings with attachments including photographs depicting site conditions and findings, detailed print out of analytical results as determined using X-ray Fluorescence technology, a Summary XRF report of areas and components testing positive for lead, figures depicting areas and components with regulated LBP, accreditation for the Inspectors performing the work, and the Performance Characteristic Sheet for the instrument used. Attachments are to be used in conjunction with the text of this Report and are not intended for use apart from the text.

GOVERNING PROTOCOLS

The protocol used for this inspection is based on the practices and procedures in the United States Department of Housing and Urban Development's (HUD) *Guidelines for the Evaluation and*

Control of Lead-Based Paint Hazards in Housing, 2012 Revision (HUD Guidelines) including the 1997 Chapter 7 revisions, and the United States Environmental Protection Agency's (USEPA) latest revisions to 40 CFR Part 745 (*Lead; Identification of Dangerous Levels of Lead; Final Rule; January 7, 2021*). USEPA updated minimum clearance levels for dust on horizontal surfaces; HUD established and updated protocols for Lead Based Paint Inspections.

The HUD Guidelines, USEPA 40 CFR Part 745 and state authorities agree that the level of 1.0 mg/cm² defines regulated LBP. This inspection was conducted using this level as the criteria for defining positive vs. negative readings for LBP. Readings equal to or greater than 1.0 mg/cm² is considered by State and Federal law to be positive for LBP.

INSPECTION METHODOLOGY

X-Ray Fluorescence Analyzer (XRF) instrumentation was utilized to test painted surfaces. Suspect materials that were painted, varnished, shellacked, stained, or otherwise coated and within the area defined as the scope of work were inspected.

XRF Operational Requirements

The following requirements were followed for XRF testing performed during this inspection.

Safety Considerations

XRF instruments were only operated by individuals who have successfully completed the Manufacturer's Training requirements for the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. Care was taken not to expose occupants or workers to measurable amounts of radiation during the inspection process.

Instrument Selection

The instruments used to perform the inspection were the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. The instrument was manufactured by SciAps; serial #04174 DOM202510. The required Performance Characteristic Sheet (PCS) is attached to this Report.

The controlled depth of each reading associated with a discrete surface or component is configured into calibration to limit the influence of lead pipes or other objects located below the designated test location, such as within a wall.

Instrument Calibration

Three calibration checks each are taken using a National Institute of Standards and Testing (NIST) 0.8 to 1.02 mg/cm² standard using a manufacturer's calibration block consisting of a specialty steel plate. Additional NIST calibration is completed with a wood block, also furnished by the manufacturer. Through iteration, the instrument checks and double-checks itself with pass/fail determinations. These checks are taken at the beginning of each day (or job), and at the end of each day (or job). Calibrations are performed more frequently if the equipment provides a calibration alert. The XRF instrument was operating within the PCS specifications during this inspection. Documentation of calibration checks can be found throughout this report.

Substrate Correction

The inspection measurements are taken in the “PCS Mode.” In the “PCS Mode,” the analyzer seeks the shortest period of time to assure a definitive measurement with a 95% confidence. The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer concludes a measurement once this level of confidence is achieved, typically between 2 and 4 seconds depending on the regulatory level, which is set in the machine before the inspection begins. The PCS indicates that no substrate correction is required when the instrument is operated in the PCS mode.

Interference

The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer is not affected by spectral interference. It works well on curved surfaces, but flat surfaces were tested whenever possible. All measurements were reported on the raw data forms and are provided as the detailed XRF data within this report.

XRF Measurement Requirements

The building was considered, in the judgement of the Lead Inspector, to be several distinct rooms within one building. Each floor was distinctly separate, and areas of the first floor were divided into work areas as designated on figures and data forms provided.

Inconclusive XRF Results

According to the PCS, Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer does not have an inconclusive range on any of the six discussed substrates (brick, concrete, drywall, metal, plaster, and wood). However, the manufacturer of this device (SciAps) indicates any reading that is at the threshold for lead (1.0 mg/cm^2) with or without 95% confidence level due to thin layering or other condition will register as positive for LBP.

Quality Control Measurements and Samples

For XRF measurements, a minimum of 1% of the shots were repeated for quality control purposes. The repeat shots provide a measure of the precision of the XRF instrument. All repeated readings were within statistical limits of 95% probability of the original shot.

Document Review

Limited documentation review was conducted in advance of this LBP inspection. Plan drawings depicting the footprint of each floor were developed based on available documentation, site observations, and interpolation. Inspectors defined sample locations (homogeneous areas) on a floor-by-floor basis, and to reference areas testing positive for LBP. In the absence of detailed construction history, EnviroNET inspectors combined components of similar construction and painting histories together into homogeneous structures.

Documentation

XRF Scope Sheets were developed during the inspection to indicate the date of the inspection, name of inspector, the structure/unit/room name, sample location, and numerical XRF results of each testing combination. Copies of these sheets are located in the Inspector's file.

The results of the inspection are provided in format compliant with HUD Guidelines, Chapter 7, and this report contains information about testing location, testing combination, paint condition, result levels, and XRF operation mode.

Consistent with requirements, each report or structure has its own unique job number. The job number is a time stamp of when that particular job was started, and which XRF instrument was used to perform the inspection. For this building, the job corresponds to the inspector and the rooms she/he inspected. Two (2) inspectors completed the field work utilizing one (1) XRF as defined above.

X-RAY FLUORESCENCE ANALYZER (XRF) OUTPUT REPORTS

After field assessment is completed, a series of reports are generated to include required information including results of the inspection. The reports are attached in a modified format to impart the significance and locations of areas containing LBP for this specific inspection. The attached reports are as follows:

Photographs

Selected photographs are provided to clarify findings for the reader. Refer to Appendix A.

Summary XRF Report

This report indicates all XRF results at or above the regulatory level, as pre-set by the manufacturer. The regulatory level was pre-set at 1.0 mg/cm². The XRF Summary Report providing locations and results of locations testing positive for LBP is attached as Appendix B.

Detailed XRF Report

The Detailed Report lists every reading taken in each room equivalent inspected. This report is generated and provided as Appendix C.

Figures

Figures are not provided, as they are not particularly instructive or helpful in understanding the results. Very few areas tested positive for LBP, therefore, figures are not provided.

Licenses of the Inspectors

Attached find the current licenses for both inspectors on this project. Refer to Appendices D & E.

PCS from Manufacturer

Attached find the PCS for the instrumentation used for XRF inspection and assessment. Refer to Appendix F.

Definitions

“Room Equivalent” as defined in HUD Chapter 7, may be a living room, a kitchen, a hallway, a bathroom, a stairway, etc. A closet is considered to be “Part” of a room, not a separate room equivalent. For this assessment, each addition or section of each addition to the structure was evaluated as a room.

“Component” is a structure such as a window casing, a door, or a wall etc. that is within a Room Equivalent. A window system, consists of two components; the window sill and the window apron. Each of these two components must be tested separately if they are present. The “Door System” consists for the components of the “Door Panel”, and the “Door Casing/Jamb System”. The door casing system consists of the door casing, header, and door jamb. The door panel and the door casing/jamb system must be tested separately.

“Substrate” is the material upon which the paint or other coating is applied to. There are six basic substrates. They are Brick, Concrete, Drywall, Metal, Plaster, and Wood.

“Testing Combination” is composed of a Room Equivalent, a Component, and a Substrate. Color is no longer considered part of a testing combination under HUD 1997 Revised Guidelines. However, where color may have been considered by the inspector to be of concern, that testing combination was tested.

Only one of each testing combination within a room equivalent (area) was required to be tested. However, at least one test is required on each wall within each room equivalent. All testing combinations within each room equivalent were tested. All four walls within each room equivalent were tested (except as otherwise discussed earlier in this report).

Spatial Orientation

Each wall within a room equivalent is labeled “A”, “B”, “C”, or “D” in the reports and on the room diagrams. Throughout this Inspection and Inspection Reports, the A wall is always facing to the North side of the Building. Walls B, C, and D continue around the particular room in a clockwise motion. In this report, Wall A is to the North; Wall B is to the East, Wall C is to the South, and Wall D is to the West.

FINDINGS

A total of 151 XRF readings for Lead Based Paint including calibration readings were taken pertaining to this structure and adjoining structures.

- Table I below summarizes generic components associated with the façade for the specified building that were identified with lead at or above the regulatory level for lead. The condition of areas testing positive for lead was reported as deteriorated.
- Photographs of areas supporting the findings of this report are provided in Appendix A.
- A list of components that tested positive for lead is provided as the **Summary XRF Report** (Appendix B) of this report.
- All XRF readings taken of the facades, regardless of result, can be found in the **Detailed XRF Report** (Appendix C) of the report.

**TABLE I
REGULATED LBP COMPONENTS**

LOCATION/ROOM	COMPONENT and DESCRIPTION	SUBSTRATE	ESTIMATED QUANTITIES
INTERIOR and EXTERIOR FAÇADE Exterior pillars along K Avenue	Structural Pillars on Periphery Wall White Paint – deteriorated	Concrete	100 LF
INTERIOR ground floor; Storage area of Consignment store Adjacent to 1038 structure	Wall patch on K Ave wall 532 K Ave white	Plaster	3000 SF
EXTERIOR FAÇADE paint Windows and window casings, 2 nd floor	Two pairs of double-hung windows and a single double hung window with white paint along K Ave. Deteriorated	Wood	400 LF

SUMMARY DISCUSSION

The exterior of the building did not exhibit painted surfaces except for the vertical concrete columns and the 2nd floor windows, both of which were determined to have regulated LBP concentrations.

Interior areas with LBP were limited to plaster walls on the 2nd floor.

Recommendations for hazard abatement in these areas include:

- 1) removal and replacement of the windows, window casings, and associated components based on the condition of the windows.
- 2) wet scrape and treatment of interior white paint on wall next to divider with 1038 property
 - Interim control may consist of new paint, or encapsulation with drywall.
 - Abatement would be accomplished by removing paint down to structural brick.
- 3) wet scrape and repainting of concrete support columns.

We understand other options for interim controls and hazard abatement are available, and we are available to discuss.

CERTIFICATION

The inspection was conducted by experienced lead paint inspector/risk assessors licensed as such by the Illinois Department of Public Health. The work performed complies with HUD guidance and sampling protocols, state, local and other specified regulatory requirements.

Inspected by:

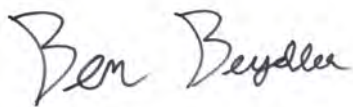


Molly Arp Newell
IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

February 12, 2026

Date

Assisted by:



Ben D. Beydler, Ph.D.
IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

February 12, 2026

Date

Appendices:

- A Photos
- B Summary XRF Report
- C Detailed XRF Report
- D Illinois LIRA LBP License Newell
- Illinois LIRA LBP License Beydler
- E PCS for XRF Analyzer



EnviroNET, Inc.
L532 + 526 K Ave., Nevada, IA
February 2026

APPENDICES



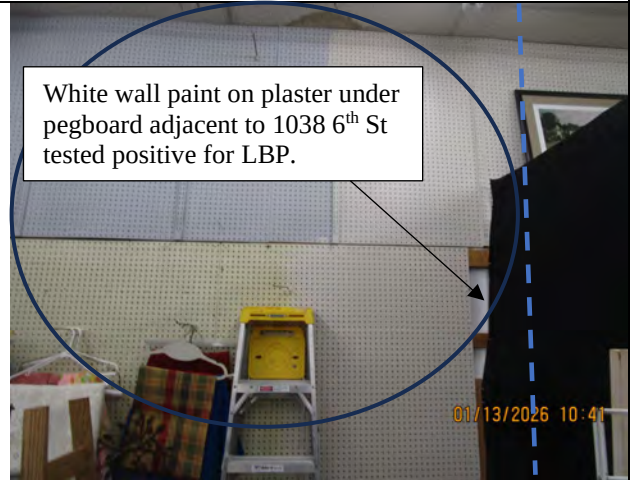
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February 2026

APPENDIX A

PHOTOGRAPHS



Structural column shown tested **positive for LBP**.
Windows above also tested **positive for LBP**



Interior view of location where 1038 6th St. meets 532 K Avenue. Cream-colored paint east of divider wall was not positive; white paint west of divider at 532 K Ave tested **positive for LBP**.



Exterior view of concrete column with white paint and wood windows with white paint: both **positive for LBP**.



Alternate view of exterior of 532 K Ave. Windows and vertical columns with white paint tested **positive for LBP**.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX B

XRF Summary Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:28	142	1.1	Positive	532K accessed via 1038 Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 526
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrn Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No distructive sampling behind wood panels.
 Original painted concrete architectural embellishments should be considered positive.
 Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX C

Detailed XRF Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:57	130	0	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Consignment Shop
1/13/2026 10:00	131	0.1	Negative	Bldg# 1038/1032	Wall	Wood	A	White	Intact	1	Façade	Storefront - Display area
1/13/2026 10:01	132	0	Negative	Bldg# 1038 Interior	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	133	0.1	Negative	Bldg# 1038	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	134	0	Negative	Bldg# 1038/1032	Wall Shelf	Wood	A	Off-White	Intact	1	Façade	Interior Storefront
1/13/2026 10:05	135	0.1	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	137	0.1	Negative	Bldg# 1038/ 1032	Wall	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:17	139	0.9	Negative	Bldg# 1038/1032	Ceiling	Plaster	A	White	Fair	1	Façade	Ceiling cornice mouldings
1/13/2026 10:17	140	0.1	Negative	Bldg# 1038/1032	Ceiling	Metal	A	White	Intact	1	Façade	Ceiling tin
1/13/2026 10:27	141	0.8	Negative	1038/ 532 K Interior	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
				532K accessed via 1038								
1/13/2026 10:28	142	1.1	Positive	Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:38	143	0.1	Negative	1038 Interior	wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:38	144	0	Negative	1038	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 10:47	146	0	Negative	1038	Wall	Plaster	A	Mauve	Intact	1	Façade	above ceiling tiles
1/13/2026 10:50	147	0	Negative	1038 & 1032	wall	Ext. Panels	A	Mauve	Intact	1	Façade	Exterior
1/13/2026 10:52	148	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	Exterior
1/13/2026 10:53	149	0	Negative	1028 Ext	Window Casing	Wood	A	Black	Intact	1	Façade	Ext. Façade 1028
1/13/2026 10:55	150	0	Negative	1028 Ext	Door	Metal	A	White	Intact	1	Façade	
1/13/2026 10:56	151	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:56	152	0	Negative	1028 Ext	Door Casing	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:57	153	0	Negative	1028 Ext	Door	Wood	A	Black	Intact	1	Façade	Interior 1028
1/13/2026 10:59	154	0	Negative	1028 Ext	Wall	Wood	A	White	Intact	1	Façade	Interior 1028
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 526
1/13/2026 11:13	161	0.1	Negative	526	Door	Metal	A	Brown	Intact	1	Bldg Façade	at entrance
1/13/2026 11:14	162	0.1	Negative	526	Door Casing	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:15	163	0	Negative	526	Door Threshold	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:21	164	0.3	Negative	526 (K-St Wall)	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:24	165	0.6	Negative	526	Wall	Plaster	A		Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:26	167	0.1	Negative	526	Window Casing	Wood	A	Clear	Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:28	168	0.2	Negative	526	Window Frame	Wood	A		Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:31	169	0.2	Negative	532 (K-St Wall)	Wall	Plaster	A	Green	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:33	170	0.2	Negative	532	Ceiling	Plaster	A	Yellow	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:38	171	0.6	Negative	532	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:39	172	0.1	Negative	532	Window Casing	Wood	A	Clear	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:40	173	0.1	Negative	532	Wall chair rail	Wood	A		Deteriorated	2	Bldg Façade	Upstairs 532



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:46	176	0.2	Negative	1038	Window Casing	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:47	177	0	Negative	1038	Wall	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:52	180	0.2	Negative	1038	Ceiling	Plaster	A	off white	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:53	181	0.2	Negative	1038	Wall chair rail	Wood	A	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 12:08	184	0	Negative	1032	East Wall (6th Ave)	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:09	185	0.2	Negative	1032	Window Casing	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:10	186	0.1	Negative	1032	Window sash	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:11	187	0	Negative	1032	Wall	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:12	188	0	Negative	1032	Ceiling	Plaster	A	White	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:20	189	0	Negative	1028 Ext lower level	Shake & Energy Bar	Wood trim	A	Black	Deteriorated	1	Bldg Facade	first floor 1028
1/13/2026 12:20	190	0	Negative	1028 Int	Wall	Wood	A	Black	Intact	1	Bldg Facade	coffee shop
1/13/2026 12:22	191	0	Negative	1028 Int	Window	Wood	A	Black	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:23	192	0	Negative	1028 Int	Door Casing	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:24	193	0	Negative	1028 Int	Door	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:54	194	0	Negative	1110 Ext	Wall	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	195	0	Negative	1110 Int.	Window	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	196	0	Negative	1110 Int.	Window casing	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:57	197	0	Negative	1110 Int.	Floor trim	wood	A	White	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 13:17	198	0	Negative	1110 Int. Kitchen	Window Sill	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:17	199	0	Negative	1110 Int.	Window	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:18	200	0	Negative	1110 Int.	wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	201	0	Negative	1110 Int. Bdrm	Wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	202	0	Negative	1110 Int.	Window well	Wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:25	203	0	Negative	1110 Int.	Wall above drop ceiling	Concrete	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrm Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 13:41	209	0	Negative	1104 Back Hallway	Door Trim	Metal	A		Intact	1	Bldg Facade	bottom of stairs
1/13/2026 13:46	210	0	Negative	moving towards Turret	Wall	Drywall	A	Gray	Intact	1	Bldg Facade	
1/13/2026 13:48	211	0	Negative	1104 South 1/2	Wall	Drywall	A	white	Intact	1	Bldg Facade	
1/13/2026 13:49	212	0	Negative	1104 South 1/2	Window Casing	Wood	A	White	Intact	1	Bldg Facade	
1/13/2026 14:13	213	0	Negative	1104 Exterior	Ext. K St. Wall	Wood	D	White	Intact	1	Bldg Facade	
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	215	0.1	Negative	1104 Exterior	Corner column	concrete	D	Red	Intact	1	Bldg Facade	
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:17	217	0	Negative	1104 Exterior	Ext Window casing Trim	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:17	218	0	Negative	1104 Exterior	Ext 6th St. window	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:22	219	0.1	Negative	1104 Ext Upper floor	Ext. K St. Wall	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	222	0.1	Negative	1104 Ext Upper floor	Ext K St. Wall paint	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:52	231	0.1	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:52	232	0.5	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:53	233	0	Negative	1028 Ext	Wall on Wood	Wood	A	Off-White	fair	2	Bldg Facade	Exterior 1028
1/13/2026 14:54	234	2.3	Positive	1028 Ext	window frame arch	Brick	A	White over red	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	236	0	Negative	1028 Ext	board between shutters	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:06	238	0.1	Negative	1032 Ext 6th St	Wall	Brick	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:06	239	0.9	Negative	1032 Ext 6th St	Wall arch over window	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:08	242	0	Negative	1032 Ext 6th St	Wall	Brick	A	above the awr	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	243	0.8	Negative	1032 Ext 6th St	Architectural arch	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:16	245	0	Negative	1038 Ext 6th St.	Shutter	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 15:16	246	0	Negative	1038 Ext 6th St.	Panel board between shutters	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:26	248	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:29	252	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A	white	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:30	253	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	254	0	Negative	1104 Ext 2nd Fl	wall panel embellishment	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	255	0	Negative	1104 Ext 2nd Fl	structural column	brick	A	white- protudin	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:33	256	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:37	257	0	Negative	1110 Ext 2nd Fl	wall	wood	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	258	0.8	Negative	1110 Ext 2nd Fl	wall	Brick	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	259	0.4	Negative	1110 Ext 2nd Fl	wall	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:39	261	0	Negative	1110 Ext 2nd Fl	window casing	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:40	262	0.6	Negative	1110 Ext 2nd Fl	brick	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	263	0.5	Negative	1110 Ext 2nd Fl	window sash	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:47	265	0	Negative	1122 Ext 2nd Fl	wall	Brick	A	Red	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:49	267	0	Negative	1122 Ext 2nd Fl	lateral trim - sill lower level	concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:50	268	0	Negative	1122 Ext 2nd Fl	wood panel	wood	A	Yellow	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:56	271	0.9	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 15:56	272	0.7	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 16:00	273	0	Negative	1122 Int 2nd Fl	window well inset	wood	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:00	274	0	Negative	1122 Int 2nd Fl	window well inset	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	275	0	Negative	1122 Int 2nd Fl	wall	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	276	0	Negative	1122 Int 2nd Fl	wall	wood	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:09	277	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	278	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	279	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	280	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No destructive sampling behind wood panels.

Original painted concrete architectural embellishments should be considered positive.

Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX D

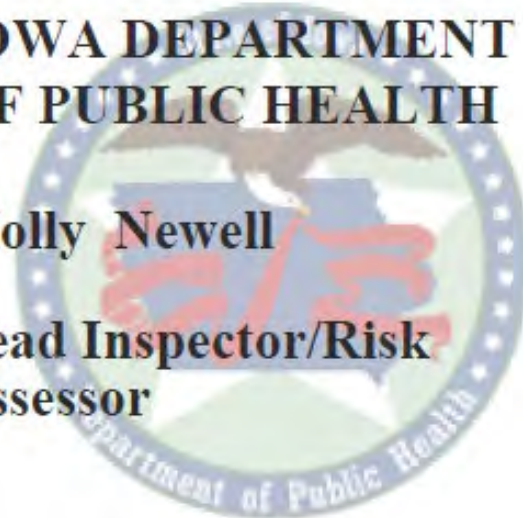
Inspector License



**IOWA DEPARTMENT
OF PUBLIC HEALTH**

Molly Newell

**Lead Inspector/Risk
Assessor**



Certification Number: LEAD-INSP10159

Expiration Date: March 10, 2027



IOWA

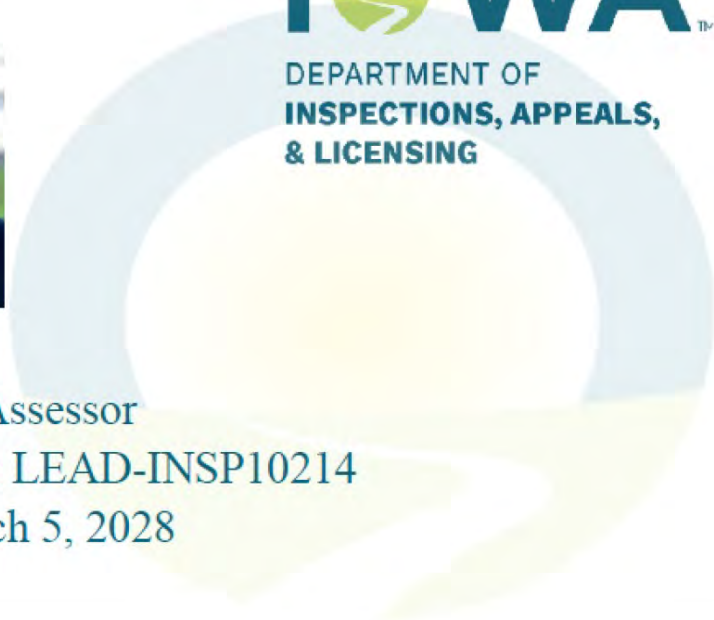
DEPARTMENT OF
**INSPECTIONS, APPEALS,
& LICENSING**

Ben Beydler

Lead Inspector/Risk Assessor

Certification Number: LEAD-INSP10214

Expiration Date: March 5, 2028





EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX E

XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2024

MANUFACTURER AND MODEL:

Make: **SciAps**

Models: **Model X-550**

X-Ray Source: **Tungsten (W) Anode**

serial#04174 DOM202510

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm²

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm² to use this PCS.

OPERATING PARAMETERS:

“Two-sigma stop” mode: variable-time reading

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) on NIST SRM 2579 (1.02 mg/cm²)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

W Anode (Two-sigma stop 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*, 2012 Edition ("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 December 2023, with two separate Tungsten-anode instruments, operated in two-sigma stop mode.

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; for NIST SRM 2579a, use film 2573 (1.04 mg/cm²)).

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.

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. In single-family and multifamily 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

The instrument did not report testing times.

CLASSIFICATION OF RESULTS:

XRF results for the W Anode in two-sigma stop mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm² and **negative** if they are **less than** 1.0 mg/cm².

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm² 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>. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

INSPECTION REPORT LEAD-BASED PAINT

1028 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247_LBP CONTRACT # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

INTRODUCTION

This is a Lead-Based Paint (LBP) Inspection Report for the building located at 1028 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The property is currently occupied by a coffee shop on the lower level. The second story is occupied as an apartment and not accessible at the time of inspection.

Limitations:

The inspection was limited to exterior and interior painted, shellacked or varnished surfaces associated with the lower level façade facing 6th Street. The second-story interior was not assessed. Exterior soils and interior dust were not included in the scope of work because 1) exterior soils subject to applicable rules were not identified around the building foundation and 2) dust wipe sampling was not applicable at time of inspection.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection and date of façade improvement.

This inspection is not a comprehensive LBP Inspection as defined by the United States Department of Housing and Urban Development (HUD) based on limitations specified above. The structure does not currently meet the criteria of a regulated facility under IEPA or HUD regulations. Even so, HUD protocols are the industry standard and HUD protocols and inspection criteria were followed as discussed below in Governing protocols.

The intended use of this report is to:

- identify locations and concentrations of regulated lead-based paint along with paint condition,
- protect workers during deconstruction and renovation,
- minimize the potential for lead dust to become airborne, and
- ensure appropriate management of lead waste.

Professional service guidance will be provided by EnviroNET to the City of Nevada upon request regarding contractor services to:

- control or eliminate lead-based paint hazards going forward,
- ensure work involving LBP is performed by certified and trained workers in accordance with EPA's Renovation, Repair and Painting (RRR) Rule
- provide residents with proper notices and disclosures about the presence and hazards of LBP as required under Subpart B of 24 CFR Part 35,
- perform clearance procedures after hazard control work, including proper testing by certified risk assessors and / or clearance technicians,
- Keep and submit records and records demonstrating compliance with the Lead Safe Housing Rule.

If portions of the facility with LBP are renovated and include residential occupancy, environmental closure of LBP remediation should be documented as well as issuance of lead-safe literature for occupants.

Scope of Work

Painted, varnished and shellacked surfaces on the first-floor interior and the exterior of both floors were assessed on an area-by-area and surface by surface basis using an X-ray Fluorescence (XRF) instrument designed for this specialty purpose. Exterior elements of the exterior façade were inspected and assessed with the XRF meter. Field activities were conducted on January 13, 2026, by two qualified and licensed EnviroNET employees.

Observation determined current construction of 1028 6th Street occupies a rectangular shaped footprint with adjoining structures and common walls. The adjoining structures to the north were also evaluated for LBP with results provided under separate cover. In some instances, inspection observations pertain to more than one address due to the configuration of original construction.

This report documents compliance with contract obligations, including narrative and tabular presentation of findings with attachments including photographs depicting site conditions and findings, detailed print out of analytical results as determined using X-ray Fluorescence technology, a Summary XRF report of areas and components testing positive for lead, figures depicting areas and components with regulated LBP, accreditation for the Inspectors performing the work, and the Performance Characteristic Sheet for the instrument used. Attachments are to be used in conjunction with the text of this Report and are not intended for use apart from the text.

GOVERNING PROTOCOLS

The protocol used for this inspection is based on the practices and procedures in the United States Department of Housing and Urban Development's (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Revision (HUD Guidelines) including the 1997 Chapter 7 revisions, and the United States Environmental Protection Agency's (USEPA) latest revisions to 40 CFR Part 745 (*Lead; Identification of Dangerous Levels of Lead; Final Rule; January 7, 2021*). USEPA updated minimum clearance levels for dust on horizontal surfaces; HUD established and updated protocols for Lead Based Paint Inspections.

The HUD Guidelines, USEPA 40 CFR Part 745 and state authorities agree that the level of 1.0 mg/cm² defines regulated LBP. This inspection was conducted using this level as the criteria for defining positive vs. negative readings for LBP. Readings equal to or greater than 1.0 mg/cm² is considered by State and Federal law to be positive for LBP.

INSPECTION METHODOLOGY

X-Ray Fluorescence Analyzer (XRF) instrumentation was utilized to test painted surfaces. Suspect materials that were painted, varnished, shellacked, stained, or otherwise coated and within the area defined as the scope of work were inspected.

XRF Operational Requirements

The following requirements were followed for XRF testing performed during this inspection.

Safety Considerations

XRF instruments were only operated by individuals who have successfully completed the Manufacturer's Training requirements for the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. Care was taken not to expose occupants or workers to measurable amounts of radiation during the inspection process.

Instrument Selection

The instruments used to perform the inspection were the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. The instrument was manufactured by SciAps; serial #04174 DOM202510. The required Performance Characteristic Sheet (PCS) is attached to this Report.

The controlled depth of each reading associated with a discrete surface or component is configured into calibration to limit the influence of lead pipes or other objects located below the designated test location, such as within a wall.

Instrument Calibration

Three calibration checks each are taken using a National Institute of Standards and Testing (NIST) 0.8 to 1.02 mg/cm² standard using a manufacturer's calibration block consisting of a specialty steel plate. Additional NIST calibration is completed with a wood block, also furnished by the manufacturer. Through iteration, the instrument checks and double-checks itself with pass/fail determinations. These checks are taken at the beginning of each day (or job), and at the end of each day (or job). Calibrations are performed more frequently if the equipment provides a calibration alert. The XRF instrument was operating within the PCS specifications during this inspection. Documentation of calibration checks can be found throughout this report.

Substrate Correction

The inspection measurements are taken in the "PCS Mode." In the "PCS Mode," the analyzer seeks the shortest period of time to assure a definitive measurement with a 95% confidence. The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer concludes a measurement once this level of confidence is achieved, typically between 2 and 4 seconds depending on the regulatory level, which is set in the machine before the inspection begins. The PCS indicates that no substrate correction is required when the instrument is operated in the PCS mode.

Interference

The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer is not affected by spectral interference. It works well on curved surfaces, but flat surfaces were tested whenever possible. All measurements were reported on the raw data forms and are provided as the detailed XRF data within this report.

XRF Measurement Requirements

The building was considered, in the judgement of the Lead Inspector, to be several distinct rooms within one building. Each floor was distinctly separate, and areas of the first floor were divided into work areas as designated on figures and data forms provided.

Inconclusive XRF Results

According to the PCS, Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer does not have an inconclusive range on any of the six discussed substrates (brick, concrete, drywall, metal, plaster, and wood). However, the manufacturer of this device (SciAps) indicates any reading that is at the threshold for lead (1.0 mg/cm^2) with or without 95% confidence level due to thin layering or other condition will register as positive for LBP.

Quality Control Measurements and Samples

For XRF measurements, a minimum of 1% of the shots were repeated for quality control purposes. The repeat shots provide a measure of the precision of the XRF instrument. All repeated readings were within statistical limits of 95% probability of the original shot.

Document Review

Limited documentation review was conducted in advance of this LBP inspection. Plan drawings depicting the footprint of each floor were developed based on available documentation, site observations, and interpolation. Inspectors defined sample locations (homogeneous areas) on a floor by floor basis, and to reference areas testing positive for LBP. In the absence of detailed construction history, EnviroNET inspectors combined components of similar construction and painting histories together into homogeneous structures.

Documentation

XRF Scope Sheets were developed during the inspection to indicate the date of the inspection, name of inspector, the structure/unit/room name, sample location, and numerical XRF results of each testing combination. Copies of these sheets are located in the Inspector's file.

The results of the inspection are provided in format compliant with HUD Guidelines, Chapter 7, and this report contains information about testing location, testing combination, paint condition, result levels, and XRF operation mode.

Consistent with requirements, each report or structure has its own unique job number. The job number is a time stamp of when that particular job was started, and which XRF instrument was used to perform the inspection. For this building, the job corresponds to the inspector and the rooms she/he inspected. Two (2) inspectors completed the field work utilizing one (1) XRF as defined above.

X-RAY FLUORESCENCE ANALYZER (XRF) OUTPUT REPORTS

After field assessment is completed, a series of reports are generated to include required information including results of the inspection. The reports are attached in a modified format to impart the significance and locations of areas containing LBP for this specific inspection. The attached reports are as follows:

Photographs

Selected photographs are provided to clarify findings for the reader. Refer to Appendix A.

Summary XRF Report

This report indicates all XRF results at or above the regulatory level, as pre-set by the manufacturer. The regulatory level was pre-set at 1.0 mg/cm². The XRF Summary Report providing locations and results of locations testing positive for LBP is attached as Appendix B.

Detailed XRF Report

The Detailed Report lists every reading taken in each room equivalent inspected. This report is generated and provided as Appendix C.

Figures

Figures are not provided, as they are not particularly instructive or helpful in understanding the results. Very few areas tested positive for LBP, therefore, figures are not provided.

Licenses of the Inspectors

Attached find the current licenses for both inspectors on this project. Refer to Appendix D.

PCS from Manufacturer

Attached find the PCS for the instrumentation used for XRF inspection and assessment. Refer to Appendix E.

Definitions

“Room Equivalent” as defined in HUD Chapter 7, may be a living room, a kitchen, a hallway, a bathroom, a stairway, etc. A closet is considered to be “Part” of a room, not a separate room equivalent. For this assessment, each addition or section of each addition to the structure was evaluated as a room.

“Component” is a structure such as a window casing, a door, or a wall etc. that is within a Room Equivalent. A window system, consists of two components; the window sill and the window apron. Each of these two components must be tested separately if they are present. The “Door System” consists for the components of the “Door Panel”, and the “Door Casing/Jamb System”. The door casing system consists of the door casing, header, and door jamb. The door panel and the door casing/jamb system must be tested separately.

“Substrate” is the material upon which the paint or other coating is applied to. There are six basic substrates. They are Brick, Concrete, Drywall, Metal, Plaster, and Wood.

“Testing Combination” is composed of a Room Equivalent, a Component, and a Substrate. Color is no longer considered part of a testing combination under HUD 1997 Revised Guidelines. However, where color may have been considered by the inspector to be of concern, that testing combination was tested.

Only one of each testing combination within a room equivalent (area) was required to be tested. However, at least one test is required on each wall within each room equivalent. All testing combinations within each room equivalent were tested. All four walls within each room equivalent were tested (except as otherwise discussed earlier in this report).

Spatial Orientation

Each wall within a room equivalent is labeled “A”, “B”, “C”, or “D” in the reports and on the room diagrams. Throughout this Inspection and Inspection Reports, the A wall is always facing to the East side of the Building. Walls B, C, and D continue around the particular room in a clockwise motion. In this report Wall A is to the East; Wall B is to the South, Wall C is to the West, and Wall D is to the North.

FINDINGS

A total of 151 XRF readings for Lead Based Paint including calibration readings were taken pertaining to this structure and adjoining structures.

- Table I below summarizes generic components associated with the façade for the specified building that were identified with lead at or above the regulatory level for lead. The condition of areas testing positive for lead was reported as deteriorated.
- Photographs of areas supporting the findings of this report are provided in Appendix A.
- A list of components that tested positive for lead is provided as the **Summary XRF Report** (Appendix B) of this report.
- All XRF readings taken of the facades, regardless of result, can be found in the **Detailed XRF Report** (Appendix C) of the report.

TABLE I
GENERAL LBP COMPONENTS

LOCATION/ROOM	COMPONENT	SUBSTRATE	ROUGH QUANTITIES
Exterior windows on second story	Window frame/sash, architectural arches above windows Condition: Deteriorated	Wood, concrete	<500 ft ²

SUMMARY DISCUSSION

Recommendations for hazard abatement in these areas include:

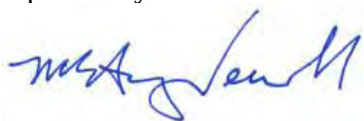
- 1) Removal and replacement of the 2nd floor windows, window casings, and associated components based on the condition of the windows/ restoration may be an option.
- 2) Removal of paint on the exterior façade is planned, based on renderings reviewed. Containment and care is recommended to minimize potential for release of airborne dust particles containing lead, and to capture the layers of paint removed from the arches.

We understand other options for interim controls and hazard abatement are available, and we are available to discuss.

CERTIFICATION

The inspection was conducted by experienced lead paint inspector/risk assessors licensed as such by the Iowa Department of Public Health. The work performed complies with HUD guidance and sampling protocols, state, local and other specified regulatory requirements.

Inspected by:



IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

February 13, 2026

Date

Assisted by:



IOWA LBP Inspection License #10214
EPA Lead Renovator License

February 13, 2026

Date

Appendices:

- A Photos
- B Summary XRF Report
- C Detailed XRF Report
- D Iowa LBP Licenses Newell & Beydler
- E PCS for XRF Analyzer



APPENDICES

APPENDIX A

PHOTOGRAPHS



View of subject property exterior, looking west.



View of 2nd level window components and architectural arches which tested positive for LBP.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX B

XRF Summary Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:28	142	1.1	Positive	532K accessed via 1038 Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 526
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrn Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No distructive sampling behind wood panels.
 Original painted concrete architectural embellishments should be considered positive.
 Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX C

Detailed XRF Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:57	130	0	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Consignment Shop
1/13/2026 10:00	131	0.1	Negative	Bldg# 1038/1032	Wall	Wood	A	White	Intact	1	Façade	Storefront - Display area
1/13/2026 10:01	132	0	Negative	Bldg# 1038 Interior	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	133	0.1	Negative	Bldg# 1038	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	134	0	Negative	Bldg# 1038/1032	Wall Shelf	Wood	A	Off-White	Intact	1	Façade	Interior Storefront
1/13/2026 10:05	135	0.1	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	137	0.1	Negative	Bldg# 1038/ 1032	Wall	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:17	139	0.9	Negative	Bldg# 1038/1032	Ceiling	Plaster	A	White	Fair	1	Façade	Ceiling cornice mouldings
1/13/2026 10:17	140	0.1	Negative	Bldg# 1038/1032	Ceiling	Metal	A	White	Intact	1	Façade	Ceiling tin
1/13/2026 10:27	141	0.8	Negative	1038/ 532 K Interior	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
				532K accessed via 1038								
1/13/2026 10:28	142	1.1	Positive	Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:38	143	0.1	Negative	1038 Interior	wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:38	144	0	Negative	1038	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 10:47	146	0	Negative	1038	Wall	Plaster	A	Mauve	Intact	1	Façade	above ceiling tiles
1/13/2026 10:50	147	0	Negative	1038 & 1032	wall	Ext. Panels	A	Mauve	Intact	1	Façade	Exterior
1/13/2026 10:52	148	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	Exterior
1/13/2026 10:53	149	0	Negative	1028 Ext	Window Casing	Wood	A	Black	Intact	1	Façade	Ext. Façade 1028
1/13/2026 10:55	150	0	Negative	1028 Ext	Door	Metal	A	White	Intact	1	Façade	
1/13/2026 10:56	151	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:56	152	0	Negative	1028 Ext	Door Casing	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:57	153	0	Negative	1028 Ext	Door	Wood	A	Black	Intact	1	Façade	Interior 1028
1/13/2026 10:59	154	0	Negative	1028 Ext	Wall	Wood	A	White	Intact	1	Façade	Interior 1028
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 526
1/13/2026 11:13	161	0.1	Negative	526	Door	Metal	A	Brown	Intact	1	Bldg Façade	at entrance
1/13/2026 11:14	162	0.1	Negative	526	Door Casing	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:15	163	0	Negative	526	Door Threshold	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:21	164	0.3	Negative	526 (K-St Wall)	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:24	165	0.6	Negative	526	Wall	Plaster	A		Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:26	167	0.1	Negative	526	Window Casing	Wood	A	Clear	Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:28	168	0.2	Negative	526	Window Frame	Wood	A		Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:31	169	0.2	Negative	532 (K-St Wall)	Wall	Plaster	A	Green	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:33	170	0.2	Negative	532	Ceiling	Plaster	A	Yellow	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:38	171	0.6	Negative	532	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:39	172	0.1	Negative	532	Window Casing	Wood	A	Clear	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:40	173	0.1	Negative	532	Wall chair rail	Wood	A		Deteriorated	2	Bldg Façade	Upstairs 532



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:46	176	0.2	Negative	1038	Window Casing	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:47	177	0	Negative	1038	Wall	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:52	180	0.2	Negative	1038	Ceiling	Plaster	A	off white	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:53	181	0.2	Negative	1038	Wall chair rail	Wood	A	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 12:08	184	0	Negative	1032	East Wall (6th Ave)	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:09	185	0.2	Negative	1032	Window Casing	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:10	186	0.1	Negative	1032	Window sash	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:11	187	0	Negative	1032	Wall	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:12	188	0	Negative	1032	Ceiling	Plaster	A	White	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:20	189	0	Negative	1028 Ext lower level	Shake & Energy Bar	Wood trim	A	Black	Deteriorated	1	Bldg Facade	first floor 1028
1/13/2026 12:20	190	0	Negative	1028 Int	Wall	Wood	A	Black	Intact	1	Bldg Facade	coffee shop
1/13/2026 12:22	191	0	Negative	1028 Int	Window	Wood	A	Black	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:23	192	0	Negative	1028 Int	Door Casing	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:24	193	0	Negative	1028 Int	Door	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:54	194	0	Negative	1110 Ext	Wall	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	195	0	Negative	1110 Int.	Window	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	196	0	Negative	1110 Int.	Window casing	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:57	197	0	Negative	1110 Int.	Floor trim	wood	A	White	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 13:17	198	0	Negative	1110 Int. Kitchen	Window Sill	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:17	199	0	Negative	1110 Int.	Window	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:18	200	0	Negative	1110 Int.	wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	201	0	Negative	1110 Int. Bdrm	Wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	202	0	Negative	1110 Int.	Window well	Wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:25	203	0	Negative	1110 Int.	Wall above drop ceiling	Concrete	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrm Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 13:41	209	0	Negative	1104 Back Hallway	Door Trim	Metal	A		Intact	1	Bldg Facade	bottom of stairs
1/13/2026 13:46	210	0	Negative	moving towards Turret	Wall	Drywall	A	Gray	Intact	1	Bldg Facade	
1/13/2026 13:48	211	0	Negative	1104 South 1/2	Wall	Drywall	A	white	Intact	1	Bldg Facade	
1/13/2026 13:49	212	0	Negative	1104 South 1/2	Window Casing	Wood	A	White	Intact	1	Bldg Facade	
1/13/2026 14:13	213	0	Negative	1104 Exterior	Ext. K St. Wall	Wood	D	White	Intact	1	Bldg Facade	
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	215	0.1	Negative	1104 Exterior	Corner column	concrete	D	Red	Intact	1	Bldg Facade	
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:17	217	0	Negative	1104 Exterior	Ext Window casing Trim	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:17	218	0	Negative	1104 Exterior	Ext 6th St. window	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:22	219	0.1	Negative	1104 Ext Upper floor	Ext. K St. Wall	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	222	0.1	Negative	1104 Ext Upper floor	Ext K St. Wall paint	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:52	231	0.1	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:52	232	0.5	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:53	233	0	Negative	1028 Ext	Wall on Wood	Wood	A	Off-White	fair	2	Bldg Facade	Exterior 1028
1/13/2026 14:54	234	2.3	Positive	1028 Ext	window frame arch	Brick	A	White over red	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	236	0	Negative	1028 Ext	board between shutters	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:06	238	0.1	Negative	1032 Ext 6th St	Wall	Brick	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:06	239	0.9	Negative	1032 Ext 6th St	Wall arch over window	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:08	242	0	Negative	1032 Ext 6th St	Wall	Brick	A	above the awr	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	243	0.8	Negative	1032 Ext 6th St	Architectural arch	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:16	245	0	Negative	1038 Ext 6th St.	Shutter	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 15:16	246	0	Negative	1038 Ext 6th St.	Panel board between shutters	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:26	248	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:29	252	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A	white	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:30	253	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	254	0	Negative	1104 Ext 2nd Fl	wall panel embellishment	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	255	0	Negative	1104 Ext 2nd Fl	structural column	brick	A	white- protudin	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:33	256	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:37	257	0	Negative	1110 Ext 2nd Fl	wall	wood	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	258	0.8	Negative	1110 Ext 2nd Fl	wall	Brick	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	259	0.4	Negative	1110 Ext 2nd Fl	wall	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:39	261	0	Negative	1110 Ext 2nd Fl	window casing	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:40	262	0.6	Negative	1110 Ext 2nd Fl	brick	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	263	0.5	Negative	1110 Ext 2nd Fl	window sash	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:47	265	0	Negative	1122 Ext 2nd Fl	wall	Brick	A	Red	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:49	267	0	Negative	1122 Ext 2nd Fl	lateral trim - sill lower level	concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:50	268	0	Negative	1122 Ext 2nd Fl	wood panel	wood	A	Yellow	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:56	271	0.9	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 15:56	272	0.7	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 16:00	273	0	Negative	1122 Int 2nd Fl	window well inset	wood	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:00	274	0	Negative	1122 Int 2nd Fl	window well inset	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	275	0	Negative	1122 Int 2nd Fl	wall	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	276	0	Negative	1122 Int 2nd Fl	wall	wood	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:09	277	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	278	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	279	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	280	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No destructive sampling behind wood panels.

Original painted concrete architectural embellishments should be considered positive.

Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX D

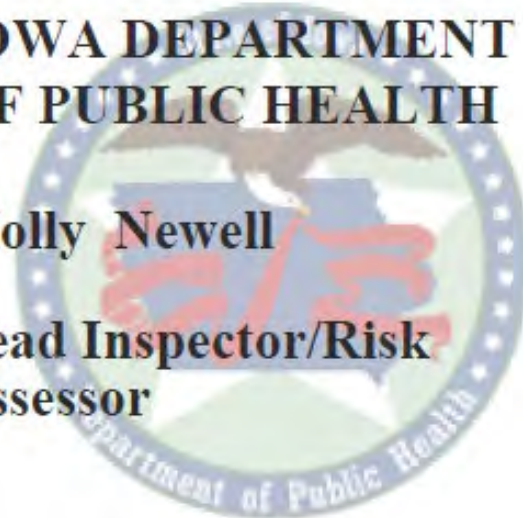
Inspector License



**IOWA DEPARTMENT
OF PUBLIC HEALTH**

Molly Newell

**Lead Inspector/Risk
Assessor**



Certification Number: LEAD-INSP10159

Expiration Date: March 10, 2027



IOWA

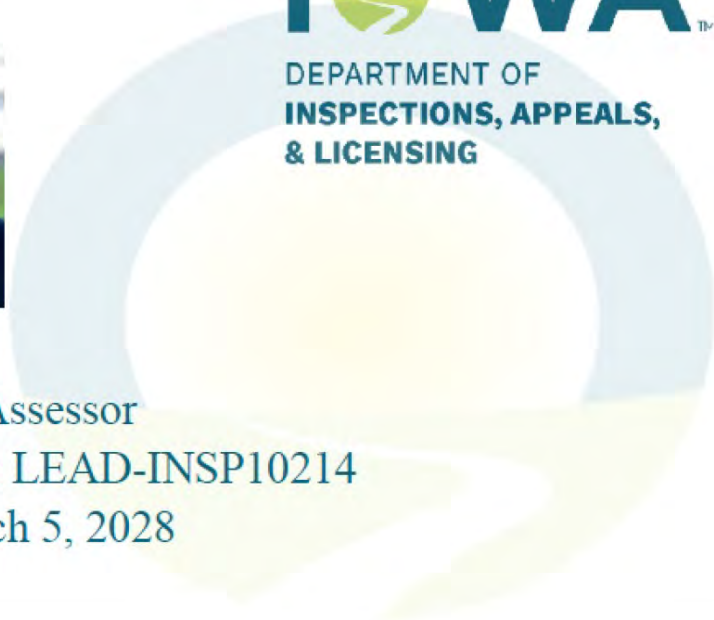
DEPARTMENT OF
**INSPECTIONS, APPEALS,
& LICENSING**

Ben Beydler

Lead Inspector/Risk Assessor

Certification Number: LEAD-INSP10214

Expiration Date: March 5, 2028





EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX E

XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2024

MANUFACTURER AND MODEL:

Make: *SciAps*

Models: *Model X-550*

X-Ray Source: *Tungsten (W) Anode*

serial#04174 DOM202510

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm²

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm² to use this PCS.

OPERATING PARAMETERS:

“Two-sigma stop” mode: variable-time reading

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) on NIST SRM 2579 (1.02 mg/cm²)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

W Anode (Two-sigma stop 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*, 2012 Edition ("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 December 2023, with two separate Tungsten-anode instruments, operated in two-sigma stop mode.

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; for NIST SRM 2579a, use film 2573 (1.04 mg/cm²)).

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.

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. In single-family and multifamily 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

The instrument did not report testing times.

CLASSIFICATION OF RESULTS:

XRF results for the W Anode in two-sigma stop mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm² and **negative** if they are **less than** 1.0 mg/cm².

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm² 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>. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

INSPECTION REPORT LEAD-BASED PAINT

1032 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247_LBP CONTRACT # 25-DTR-004-011426
Report Date: February 2026

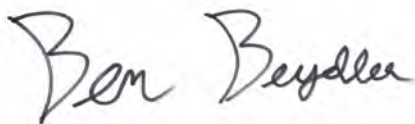
Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

INTRODUCTION

This is a Lead-Based Paint (LBP) Inspection Report for the building located at 1032 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The lower level of the property is currently occupied by a consignment shop, conjoined with commercial property first floor (street level) at 1038 6th St. A divider wall inside the consignment shop was not observed between 1038 and 1032 6th St. For these reasons, some overlap in inspection and testing was conducted regarding the interiors of these structures.

The two-story building was observed to be constructed of brick with vertical concrete supports on the periphery, and some plaster over structural brick (original) on interior of peripheral walls. Interiors also exhibited various wood panels and finishes for retail and display purposes. The second story, currently a vacant apartment, was accessible through a door in the rear.

Access to both the lower-level consignment shop and the upper-level apartment was provided by Mr. Jim Samuelson, who indicated the property had been in his family since 1947.

Limitations:

The inspection was limited to exterior and interior painted, shellacked or varnished surfaces associated with the façade facing 6th Street. Exterior soils and interior dust were not included in the scope of work because 1) exterior soils subject to applicable rules were not identified around the building foundation and 2) dust wipe sampling was not applicable at time of inspection.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection and date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

Utilities were not turned on for the upper level. The upstairs apartment over the retail space was vacant. Debris was prevalent, limiting direct access to some areas.

This inspection is not a comprehensive LBP Inspection as defined by the United States Department of Housing and Urban Development (HUD) 24 CFR Part 35 Subpart R and HUD Guidelines for Evaluation and Control of LBP hazards in Housing Chapter 7, revision 2012 based on limitations specified above. The structure does not currently meet the criteria of a regulated facility under IEPA or HUD regulations. Even so, HUD protocols are the industry standard and HUD-like protocols and inspection criteria were followed as discussed below in Governing protocols.

The intended use of this report is to

- identify locations and concentrations of regulated lead-based paint along with paint condition,
- protect workers during deconstruction and renovation,
- minimize the potential for lead dust to become airborne, and
- ensure appropriate management of lead waste.

Professional service guidance will be provided by EnviroNET to the City of Nevada upon request regarding contractor services to:

- control or eliminate lead-based paint hazards going forward,
- ensure work involving LBP is performed by certified and trained workers in accordance with EPA's Renovation, Repair and Painting (RRR) Rule
- provide residents with proper notices and disclosures about the presence and hazards of LBP as required under Subpart B of 24 CFR Part 35,
- perform clearance procedures after hazard control work, including proper testing by certified risk assessors and / or clearance technicians,
- Keep and submit records and records demonstrating compliance with the Lead Safe Housing Rule.

If portions of the facility with LBP are renovated for residential occupancy, environmental closure of LBP remediation should be documented as well as issuance of lead-safe literature for occupants.

Scope of Work

Painted, varnished and shellacked surfaces on both floors of the facility were assessed on an area-by-area and surface by surface basis using an X-ray Fluorescence (XRF) instrument designed for this specialty purpose. Exterior elements of the exterior façade were inspected and assessed with the XRF meter. Field activities were conducted on January 13, 2026, by two qualified and licensed EnviroNET employees.

Observation determined current construction of 1032 6th Street occupies a rectangular shaped footprint with adjoining structures and common walls. The adjoining structures to the north were also evaluated for LBP with results provided under separate cover. In some instances, inspection observations pertain to more than one address due to the configuration of original construction.

This report documents compliance with contract obligations, including narrative and tabular presentation of findings with attachments including photographs depicting site conditions and findings, detailed print out of analytical results as determined using X-ray Fluorescence technology, a Summary XRF report of areas and components testing positive for lead, figures depicting areas and components with regulated LBP, accreditation for the Inspectors performing the work, and the Performance Characteristic Sheet for the instrument used. Attachments are to be used in conjunction with the text of this Report and are not intended for use apart from the text.

GOVERNING PROTOCOLS

The protocol used for this inspection is based on the practices and procedures in the United States Department of Housing and Urban Development's (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Revision (HUD Guidelines) including the 1997 Chapter 7 revisions, and the United States Environmental Protection Agency's (USEPA) latest revisions to 40 CFR Part 745 (*Lead; Identification of Dangerous Levels of Lead; Final Rule; January 7, 2021*). USEPA updated minimum clearance levels for dust on horizontal surfaces; HUD established and updated protocols for Lead Based Paint Inspections.

The HUD Guidelines, USEPA 40 CFR Part 745 and state authorities agree that the level of 1.0 mg/cm² defines regulated LBP. This inspection was conducted using this level as the criteria for defining positive vs. negative readings for LBP. Readings equal to or greater than 1.0 mg/cm² is considered by State and Federal law to be positive for LBP.

INSPECTION METHODOLOGY

X-Ray Fluorescence Analyzer (XRF) instrumentation was utilized to test painted surfaces. Suspect materials that were painted, varnished, shellacked, stained, or otherwise coated and within the area defined as the scope of work were inspected.

XRF Operational Requirements

The following requirements were followed for XRF testing performed during this inspection.

Safety Considerations

XRF instruments were only operated by individuals who have successfully completed the Manufacturer's Training requirements for the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. Care was taken not to expose occupants or workers to measurable amounts of radiation during the inspection process.

Instrument Selection

The instruments used to perform the inspection were the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. The instrument was manufactured by SciAps; serial #04174 DOM202510. The required Performance Characteristic Sheet (PCS) is attached to this Report.

The controlled depth of each reading associated with a discrete surface or component is configured into calibration to limit the influence of lead pipes or other objects located below the designated test location, such as within a wall.

Instrument Calibration

Three calibration checks each are taken using a National Institute of Standards and Testing (NIST) 0.8 to 1.02 mg/cm² standard using a manufacturer's calibration block consisting of a specialty steel plate. Additional NIST calibration is completed with a wood block, also furnished by the manufacturer. Through iteration, the instrument checks and double-checks itself with pass/fail determinations. These checks are taken at the beginning of each day (or job), and at the end of each day (or job). Calibrations are performed more frequently if the equipment provides a calibration alert. The XRF instrument was operating within the PCS specifications during this inspection. Documentation of calibration checks can be found throughout this report.

Substrate Correction

The inspection measurements are taken in the "PCS Mode." In the "PCS Mode," the analyzer seeks the shortest period of time to assure a definitive measurement with a 95% confidence. The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer concludes a measurement once this level of confidence is achieved, typically between 2 and 4 seconds depending on the regulatory level, which

is set in the machine before the inspection begins. The PCS indicates that no substrate correction is required when the instrument is operated in the PCS mode.

Interference

The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer is not affected by spectral interference. It works well on curved surfaces, but flat surfaces were tested whenever possible. All measurements were reported on the raw data forms and are provided as the detailed XRF data within this report.

XRF Measurement Requirements

The building was considered, in the judgement of the Lead Inspector, to be several distinct rooms within one building. Each floor was distinctly separate, and areas of the first floor were divided into work areas as designated on figures and data forms provided.

Inconclusive XRF Results

According to the PCS, Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer does not have an inconclusive range on any of the six discussed substrates (brick, concrete, drywall, metal, plaster, and wood). However, the manufacturer of this device (SciAps) indicates any reading that is at the threshold for lead (1.0 mg/cm^2) with or without 95% confidence level due to thin layering or other condition will register as positive for LBP.

Quality Control Measurements and Samples

For XRF measurements, a minimum of 1% of the shots were repeated for quality control purposes. The repeat shots provide a measure of the precision of the XRF instrument. All repeated readings were within statistical limits of 95% probability of the original shot.

Document Review

Limited documentation review was conducted in advance of this LBP inspection. Plan drawings depicting the footprint of each floor were developed based on available documentation, site observations, and interpolation. Inspectors defined sample locations (homogeneous areas) on a floor by floor basis, and to reference areas testing positive for LBP. In the absence of detailed construction history, EnviroNET inspectors combined components of similar construction and painting histories together into homogeneous structures.

Documentation

XRF Scope Sheets were developed during the inspection to indicate the date of the inspection, name of inspector, the structure/unit/room name, sample location, and numerical XRF results of each testing combination. Copies of these sheets are located in the Inspector's file.

The results of the inspection are provided in format compliant with HUD Guidelines, Chapter 7, and this report contains information about testing location, testing combination, paint condition, result levels, and XRF operation mode.

Consistent with requirements, each report or structure has its own unique job number. The job number is a time stamp of when that particular job was started, and which XRF instrument was used to perform the inspection. For this building, the job corresponds to the inspector and the rooms she/he inspected. Two (2) inspectors completed the field work utilizing one (1) XRF as defined above.

X-RAY FLUORESCENCE ANALYZER (XRF) OUTPUT REPORTS

After field assessment is completed, a series of reports are generated to include required information including results of the inspection. The reports are attached in a modified format to impart the significance and locations of areas containing LBP for this specific inspection. The attached reports are as follows:

Photographs

Selected photographs are provided to clarify findings for the reader. Refer to Appendix A.

Summary XRF Report

This report indicates all XRF results at or above the regulatory level, as pre-set by the manufacturer. The regulatory level was pre-set at 1.0 mg/cm². The XRF Summary Report providing locations and results of locations testing positive for LBP is attached as Appendix B.

Detailed XRF Report

The Detailed Report lists every reading taken in each room equivalent inspected. This report is generated and provided as Appendix C.

Figures

Figures are not provided, as they are not particularly instructive or helpful in understanding the results. Very few areas tested positive for LBP, therefore, figures are not provided.

Licenses of the Inspectors

Attached find the current licenses for both inspectors on this project. Refer to Appendices D.

PCS from Manufacturer

Attached find the PCS for the instrumentation used for XRF inspection and assessment. Refer to Appendix E.

Definitions

“Room Equivalent” as defined in HUD Chapter 7, may be a living room, a kitchen, a hallway, a bathroom, a stairway, etc. A closet is considered to be “Part” of a room, not a separate room equivalent. For this assessment, each addition or section of each addition to the structure was evaluated as a room.

“Component” is a structure such as a window casing, a door, or a wall etc. that is within a Room Equivalent. A window system, consists of two components; the window sill and the window apron. Each of these two components must be tested separately if they are present. The “Door System” consists for the components of the “Door Panel”, and the “Door Casing/Jamb System”. The door casing system consists of the door casing, header, and door jamb. The door panel and the door casing/jamb system must be tested separately.

“Substrate” is the material upon which the paint or other coating is applied to. There are six basic substrates. They are Brick, Concrete, Drywall, Metal, Plaster, and Wood.

“Testing Combination” is composed of a Room Equivalent, a Component, and a Substrate. Color is no longer considered part of a testing combination under HUD 1997 Revised Guidelines. However, where color may have been considered by the inspector to be of concern, that testing combination was tested.

Only one of each testing combination within a room equivalent (area) was required to be tested. However, at least one test is required on each wall within each room equivalent. All testing combinations within each room equivalent were tested. All four walls within each room equivalent were tested (except as otherwise discussed earlier in this report).

Spatial Orientation

Each wall within a room equivalent is labeled “A”, “B”, “C”, or “D” in the reports and on the room diagrams. Throughout this Inspection and Inspection Reports, the A wall is always facing to the East side of the Building. Walls B, C, and D continue around the particular room in a clockwise motion. In this report, In this report Wall A is to the East; Wall B is to the South, Wall C is to the West, and Wall D is to the North.

FINDINGS

A total of 151 XRF readings for Lead Based Paint including calibration readings were taken pertaining to this structure and adjoining structures.

- Table I below summarizes generic components associated with the façade for the specified building that were identified with lead at or above the regulatory level for lead. The condition of areas testing positive for lead was reported as deteriorated.
- Photographs of areas supporting the findings of this report are provided in Appendix A.
- A list of components that tested positive for lead is provided as the **Summary XRF Report** (Appendix B) of this report.
- All XRF readings taken of the facades, regardless of result, can be found in the **Detailed XRF Report** (Appendix C) of the report.

TABLE I
GENERAL LBP COMPONENTS

LOCATION/ROOM	COMPONENT	SUBSTRATE	ROUGH QUANTITIES
Exterior windows on second story	Window frame/sash, White Deteriorated	Wood,	<500 ft ²
Exterior architectural embellishment on windows Second story	architectural arches and window sills around windows positive for LBP Orange – white sill Fair Condition to poor	concrete	<100 ft ²

SUMMARY DISCUSSION

Recommendations for hazard abatement in these areas include:

- 1) Removal and replacement of the windows, window casings, and associated components based on the condition of the windows/ restoration may be an option.
- 2) Removal of paint on the exterior façade is planned, based on renderings reviewed. Containment and care is recommended to minimize potential for release of airborne dust particles containing lead, and to capture the layers of paint removed from the arches.

We understand other options for interim controls and hazard abatement are available, and we are available to discuss.

CERTIFICATION

The inspection was conducted by experienced lead paint inspector/risk assessors licensed as such by the Iowa Department of Public Health. The work performed complies with HUD guidance and sampling protocols, state, local and other specified regulatory requirements.

Inspected by:

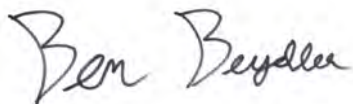


Molly Arp Newell
Licensed Lead Risk Assessor
Illinois 15096

February 12, 2026

Date

Assisted by:



Ben D. Beydler, Ph.D.
Licensed Lead Risk Assessor
Illinois 1003543

February 12, 2026

Date

Appendices:

- A Photos
- B Summary XRF Report
- C Detailed XRF Report
- D Iowa LBP License Newell
- E Iowa LBP License Beydler
- F PCS for XRF Analyzer



EnviroNET, Inc.
BP Report 1032 6th St., Nevada, IA
February 2026

APPENDICES



EnviroNET, Inc.
BP Report 1032 6th St., Nevada, IA
February 2026

APPENDIX A

PHOTOGRAPHS



View of subject property exterior, looking west.



View of 2nd level exterior testing. Window components and architectural arches tested **positive for LBP.**



View of 2nd floor interior wall; no LBP identified.



No other suspect components in scope of work.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX B

XRF Summary Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:28	142	1.1	Positive	532K accessed via 1038	Interior	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 526
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrn Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No distructive sampling behind wood panels.
 Original painted concrete architectural embellishments should be considered positive.
 Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX C

Detailed XRF Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:57	130	0	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Consignment Shop
1/13/2026 10:00	131	0.1	Negative	Bldg# 1038/1032	Wall	Wood	A	White	Intact	1	Façade	Storefront - Display area
1/13/2026 10:01	132	0	Negative	Bldg# 1038 Interior	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	133	0.1	Negative	Bldg# 1038	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	134	0	Negative	Bldg# 1038/1032	Wall Shelf	Wood	A	Off-White	Intact	1	Façade	Interior Storefront
1/13/2026 10:05	135	0.1	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	137	0.1	Negative	Bldg# 1038/ 1032	Wall	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:17	139	0.9	Negative	Bldg# 1038/1032	Ceiling	Plaster	A	White	Fair	1	Façade	Ceiling cornice mouldings
1/13/2026 10:17	140	0.1	Negative	Bldg# 1038/1032	Ceiling	Metal	A	White	Intact	1	Façade	Ceiling tin
1/13/2026 10:27	141	0.8	Negative	1038/ 532 K Interior	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
				532K accessed via 1038								
1/13/2026 10:28	142	1.1	Positive	Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:38	143	0.1	Negative	1038 Interior	wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:38	144	0	Negative	1038	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 10:47	146	0	Negative	1038	Wall	Plaster	A	Mauve	Intact	1	Façade	above ceiling tiles
1/13/2026 10:50	147	0	Negative	1038 & 1032	wall	Ext. Panels	A	Mauve	Intact	1	Façade	Exterior
1/13/2026 10:52	148	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	Exterior
1/13/2026 10:53	149	0	Negative	1028 Ext	Window Casing	Wood	A	Black	Intact	1	Façade	Ext. Façade 1028
1/13/2026 10:55	150	0	Negative	1028 Ext	Door	Metal	A	White	Intact	1	Façade	
1/13/2026 10:56	151	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:56	152	0	Negative	1028 Ext	Door Casing	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:57	153	0	Negative	1028 Ext	Door	Wood	A	Black	Intact	1	Façade	Interior 1028
1/13/2026 10:59	154	0	Negative	1028 Ext	Wall	Wood	A	White	Intact	1	Façade	Interior 1028
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 526
1/13/2026 11:13	161	0.1	Negative	526	Door	Metal	A	Brown	Intact	1	Bldg Façade	at entrance
1/13/2026 11:14	162	0.1	Negative	526	Door Casing	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:15	163	0	Negative	526	Door Threshold	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:21	164	0.3	Negative	526 (K-St Wall)	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:24	165	0.6	Negative	526	Wall	Plaster	A		Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:26	167	0.1	Negative	526	Window Casing	Wood	A	Clear	Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:28	168	0.2	Negative	526	Window Frame	Wood	A		Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:31	169	0.2	Negative	532 (K-St Wall)	Wall	Plaster	A	Green	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:33	170	0.2	Negative	532	Ceiling	Plaster	A	Yellow	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:38	171	0.6	Negative	532	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:39	172	0.1	Negative	532	Window Casing	Wood	A	Clear	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:40	173	0.1	Negative	532	Wall chair rail	Wood	A		Deteriorated	2	Bldg Façade	Upstairs 532



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:46	176	0.2	Negative	1038	Window Casing	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:47	177	0	Negative	1038	Wall	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:52	180	0.2	Negative	1038	Ceiling	Plaster	A	off white	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:53	181	0.2	Negative	1038	Wall chair rail	Wood	A	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 12:08	184	0	Negative	1032	East Wall (6th Ave)	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:09	185	0.2	Negative	1032	Window Casing	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:10	186	0.1	Negative	1032	Window sash	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:11	187	0	Negative	1032	Wall	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:12	188	0	Negative	1032	Ceiling	Plaster	A	White	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:20	189	0	Negative	1028 Ext lower level	Shake & Energy Bar	Wood trim	A	Black	Deteriorated	1	Bldg Facade	first floor 1028
1/13/2026 12:20	190	0	Negative	1028 Int	Wall	Wood	A	Black	Intact	1	Bldg Facade	coffee shop
1/13/2026 12:22	191	0	Negative	1028 Int	Window	Wood	A	Black	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:23	192	0	Negative	1028 Int	Door Casing	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:24	193	0	Negative	1028 Int	Door	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:54	194	0	Negative	1110 Ext	Wall	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	195	0	Negative	1110 Int.	Window	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	196	0	Negative	1110 Int.	Window casing	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:57	197	0	Negative	1110 Int.	Floor trim	wood	A	White	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 13:17	198	0	Negative	1110 Int. Kitchen	Window Sill	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:17	199	0	Negative	1110 Int.	Window	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:18	200	0	Negative	1110 Int.	wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	201	0	Negative	1110 Int. Bdrm	Wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	202	0	Negative	1110 Int.	Window well	Wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:25	203	0	Negative	1110 Int.	Wall above drop ceiling	Concrete	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrm Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 13:41	209	0	Negative	1104 Back Hallway	Door Trim	Metal	A		Intact	1	Bldg Facade	bottom of stairs
1/13/2026 13:46	210	0	Negative	moving towards Turret	Wall	Drywall	A	Gray	Intact	1	Bldg Facade	
1/13/2026 13:48	211	0	Negative	1104 South 1/2	Wall	Drywall	A	white	Intact	1	Bldg Facade	
1/13/2026 13:49	212	0	Negative	1104 South 1/2	Window Casing	Wood	A	White	Intact	1	Bldg Facade	
1/13/2026 14:13	213	0	Negative	1104 Exterior	Ext. K St. Wall	Wood	D	White	Intact	1	Bldg Facade	
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	215	0.1	Negative	1104 Exterior	Corner column	concrete	D	Red	Intact	1	Bldg Facade	
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:17	217	0	Negative	1104 Exterior	Ext Window casing Trim	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:17	218	0	Negative	1104 Exterior	Ext 6th St. window	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:22	219	0.1	Negative	1104 Ext Upper floor	Ext. K St. Wall	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	222	0.1	Negative	1104 Ext Upper floor	Ext K St. Wall paint	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:52	231	0.1	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:52	232	0.5	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:53	233	0	Negative	1028 Ext	Wall on Wood	Wood	A	Off-White	fair	2	Bldg Facade	Exterior 1028
1/13/2026 14:54	234	2.3	Positive	1028 Ext	window frame arch	Brick	A	White over red	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	236	0	Negative	1028 Ext	board between shutters	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:06	238	0.1	Negative	1032 Ext 6th St	Wall	Brick	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:06	239	0.9	Negative	1032 Ext 6th St	Wall arch over window	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:08	242	0	Negative	1032 Ext 6th St	Wall	Brick	A	above the awr	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	243	0.8	Negative	1032 Ext 6th St	Architectural arch	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:16	245	0	Negative	1038 Ext 6th St.	Shutter	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 15:16	246	0	Negative	1038 Ext 6th St.	Panel board between shutters	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:26	248	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:29	252	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A	white	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:30	253	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	254	0	Negative	1104 Ext 2nd Fl	wall panel embellishment	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	255	0	Negative	1104 Ext 2nd Fl	structural column	brick	A	white- protudin	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:33	256	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:37	257	0	Negative	1110 Ext 2nd Fl	wall	wood	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	258	0.8	Negative	1110 Ext 2nd Fl	wall	Brick	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	259	0.4	Negative	1110 Ext 2nd Fl	wall	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:39	261	0	Negative	1110 Ext 2nd Fl	window casing	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:40	262	0.6	Negative	1110 Ext 2nd Fl	brick	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	263	0.5	Negative	1110 Ext 2nd Fl	window sash	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:47	265	0	Negative	1122 Ext 2nd Fl	wall	Brick	A	Red	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:49	267	0	Negative	1122 Ext 2nd Fl	lateral trim - sill lower level	concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:50	268	0	Negative	1122 Ext 2nd Fl	wood panel	wood	A	Yellow	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:56	271	0.9	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 15:56	272	0.7	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 16:00	273	0	Negative	1122 Int 2nd Fl	window well inset	wood	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:00	274	0	Negative	1122 Int 2nd Fl	window well inset	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	275	0	Negative	1122 Int 2nd Fl	wall	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	276	0	Negative	1122 Int 2nd Fl	wall	wood	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:09	277	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	278	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	279	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	280	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No destructive sampling behind wood panels.

Original painted concrete architectural embellishments should be considered positive.

Painted brick on lower level is hot where tested.



APPENDIX D

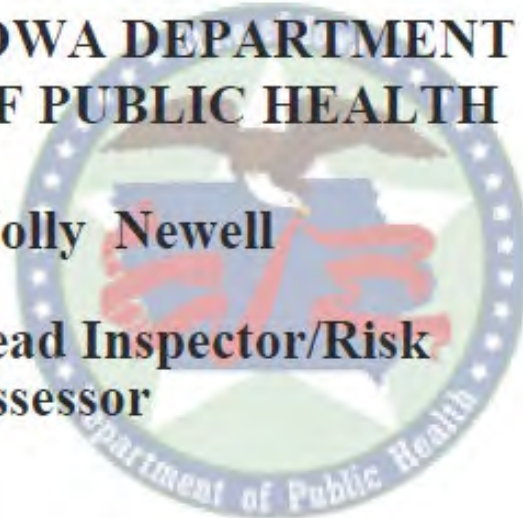
Inspector License



**IOWA DEPARTMENT
OF PUBLIC HEALTH**

Molly Newell

**Lead Inspector/Risk
Assessor**



Certification Number: LEAD-INSP10159

Expiration Date: March 10, 2027



IOWA

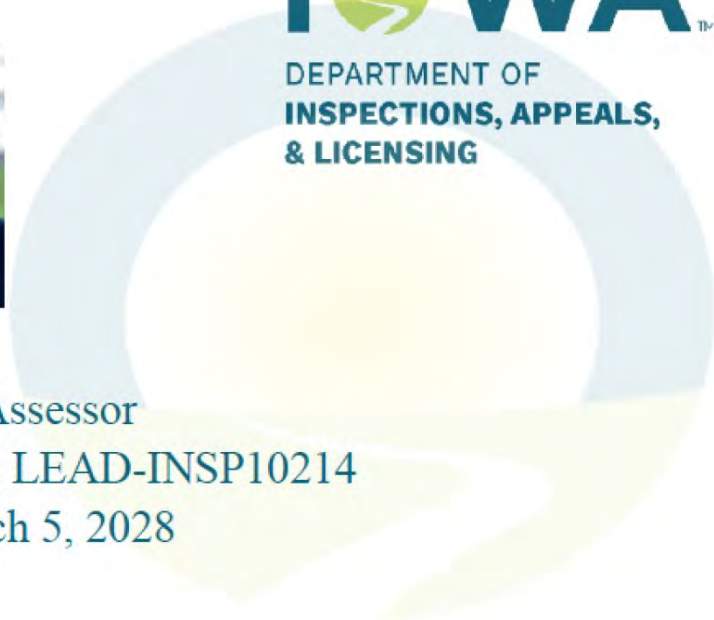
DEPARTMENT OF
**INSPECTIONS, APPEALS,
& LICENSING**

Ben Beydler

Lead Inspector/Risk Assessor

Certification Number: LEAD-INSP10214

Expiration Date: March 5, 2028





EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX E

XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2024

MANUFACTURER AND MODEL:

Make: *SciAps*

Models: *Model X-550*

X-Ray Source: *Tungsten (W) Anode*

serial#04174 DOM202510

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm²

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm² to use this PCS.

OPERATING PARAMETERS:

“Two-sigma stop” mode: variable-time reading

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) on NIST SRM 2579 (1.02 mg/cm²)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

W Anode (Two-sigma stop 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*, 2012 Edition ("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 December 2023, with two separate Tungsten-anode instruments, operated in two-sigma stop mode.

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; for NIST SRM 2579a, use film 2573 (1.04 mg/cm²)).

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.

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. In single-family and multifamily 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

The instrument did not report testing times.

CLASSIFICATION OF RESULTS:

XRF results for the W Anode in two-sigma stop mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm² and **negative** if they are **less than** 1.0 mg/cm².

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm² 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>. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

INSPECTION REPORT LEAD-BASED PAINT

1038 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247_LBP CONTRACT # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

INTRODUCTION

This Lead-Based Paint (LBP) Inspection Report for the building located at 1038 6th Street, Nevada, IA was performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The property is currently occupied by a consignment shop which encompasses the lower level of entire parcel, plus the adjacent commercial property on first floor (street level) at 1032 6th St., 536 K Avenue, and 526 K Avenue. A divider wall inside the consignment shop was not observed between 1038 and 1032 6th St. Nor was an interior divider wall noted between 1038 and the adjacent properties to the west: 532 and 526 K Avenue. For these reasons, some overlap of inspection and testing was conducted regarding the interiors and exteriors of these structures.

The two-story building was observed to be constructed of brick with vertical concrete supports on the periphery, and some plaster over structural brick (original) on interior of peripheral walls. Interiors also exhibited various wood panels and finishes for retail and display purposes. The second story of 1038 6th St. was vacant, which was accessible through a door and stairwell on the west side of 526 K Avenue.

Access to both the lower level consignment shop and the upper-level (vacant) areas was provided by Mr. Jim Samuelson, who indicated the property had been in his family since 1947.

Limitations:

The inspection was limited to exterior and interior painted, shellacked or varnished surfaces associated with the façades facing 6th Street and K Avenue. Exterior soils and interior dust were not included in the scope of work because 1) exterior soils subject to applicable rules were not identified around the building foundation and 2) dust wipe sampling was not applicable at time of inspection.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection vs. date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

Utilities were not turned on for the upper level. The upstairs apartment over the retail space was vacant. Debris was prevalent, limiting direct access to some areas.

This inspection is not a comprehensive LBP Inspection as defined by the United States Department of Housing and Urban Development (HUD) 24 CFR Part 35 Subpart R and HUD Guidelines for Evaluation and Control of LBP hazards in Housing Chapter 7, revision 2012 based on limitations specified above. The structure does not currently meet the criteria of a regulated facility under IEPA or HUD regulations. Even so, HUD protocols are the industry standard and HUD-like protocols and inspection criteria were followed as discussed below in Governing protocols.

The intended use of this report is to:

- identify locations and concentrations of regulated lead-based paint along with paint condition,

- protect workers during deconstruction and renovation,
- minimize the potential for lead dust to become airborne, and
- ensure appropriate management of lead waste.

Professional service guidance will be provided by EnviroNET to the City of Nevada upon request regarding contractor services to:

- control or eliminate lead-based paint hazards going forward,
- ensure work involving LBP is performed by certified and trained workers in accordance with EPA's Renovation, Repair and Painting (RRR) Rule
- provide residents with proper notices and disclosures about the presence and hazards of LBP as required under Subpart B of 24 CFR Part 35,
- perform clearance procedures after hazard control work, including proper testing by certified risk assessors and / or clearance technicians,
- Keep and submit records demonstrating compliance with the Lead Safe Housing Rule.

If portions of the facility with LBP are renovated for residential occupancy, environmental closure of LBP remediation should be documented as well as issuance of lead-safe literature for occupants.

Scope of Work

Painted, varnished and shellacked surfaces on both floors of the facility were assessed on an area-by-area and surface by surface basis using an X-ray Fluorescence (XRF) instrument designed for this specialty purpose. Exterior elements of the exterior façade were inspected and assessed with the XRF meter. Field activities were conducted on January 13, 2026, by two qualified and licensed EnviroNET employees.

Observation determined current construction of 1038 6th Street occupies a rectangular shaped footprint with adjoining structures and common walls. The adjoining structures were also evaluated for LBP with results provided under separate cover. In some instances, inspection observations pertain to more than one address due to the configuration of original construction.

This report documents compliance with contract obligations, including narrative and tabular presentation of findings with attachments including photographs depicting site conditions and findings, detailed print out of analytical results as determined using X-ray Fluorescence technology, a Summary XRF report of areas and components testing positive for lead, figures depicting areas and components with regulated LBP, accreditation for the Inspectors performing the work, and the Performance Characteristic Sheet for the instrument used. Attachments are to be used in conjunction with the text of this Report and are not intended for use apart from the text.

GOVERNING PROTOCOLS

The protocol used for this inspection is based on the practices and procedures in the United States Department of Housing and Urban Development's (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Revision (HUD Guidelines) including the 1997 Chapter 7 revisions, and the United States Environmental Protection Agency's (USEPA) latest revisions to 40 CFR Part 745 (*Lead; Identification of Dangerous Levels of Lead; Final Rule*;

January 7, 2021). USEPA updated minimum clearance levels for dust on horizontal surfaces; HUD established and updated protocols for Lead Based Paint Inspections.

The HUD Guidelines, USEPA 40 CFR Part 745 and state authorities agree that the level of 1.0 mg/cm² defines regulated LBP. This inspection was conducted using this level as the criteria for defining positive vs. negative readings for LBP. Readings equal to or greater than 1.0 mg/cm² is considered by State and Federal law to be positive for LBP.

INSPECTION METHODOLOGY

X-Ray Fluorescence Analyzer (XRF) instrumentation was utilized to test painted surfaces. Suspect materials that were painted, varnished, shellacked, stained, or otherwise coated and within the area defined as the scope of work were inspected.

XRF Operational Requirements

The following requirements were followed for XRF testing performed during this inspection.

Safety Considerations

XRF instruments were only operated by individuals who have successfully completed the Manufacturer's Training requirements for the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. Care was taken not to expose occupants or workers to measurable amounts of radiation during the inspection process.

Instrument Selection

The instruments used to perform the inspection were the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. The instrument was manufactured by SciAps; serial #04174 DOM202510. The required Performance Characteristic Sheet (PCS) is attached to this Report.

The controlled depth of each reading associated with a discrete surface or component is configured into calibration to limit the influence of lead pipes or other objects located below the designated test location, such as within a wall.

Instrument Calibration

Three calibration checks each are taken using a National Institute of Standards and Testing (NIST) 0.8 to 1.02 mg/cm² standard using a manufacturer's calibration block consisting of a specialty steel plate. Additional NIST calibration is completed with a wood block, also furnished by the manufacturer. Through iteration, the instrument checks and double-checks itself with pass/fail determinations. These checks are taken at the beginning of each day (or job), and at the end of each day (or job). Calibrations are performed more frequently if the equipment provides a calibration alert. The XRF instrument was operating within the PCS specifications during this inspection. Documentation of calibration checks can be found throughout this report.

Substrate Correction

The inspection measurements are taken in the "PCS Mode." In the "PCS Mode," the analyzer seeks the shortest period of time to assure a definitive measurement with a 95% confidence. The Model

X-550 Tungsten (W) Anode XRF Lead Paint Analyzer concludes a measurement once this level of confidence is achieved, typically between 2 and 4 seconds depending on the regulatory level, which is set in the machine before the inspection begins. The PCS indicates that no substrate correction is required when the instrument is operated in the PCS mode.

Interference

The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer is not affected by spectral interference. It works well on curved surfaces, but flat surfaces were tested whenever possible. All measurements were reported on the raw data forms and are provided as the detailed XRF data within this report.

XRF Measurement Requirements

The building was considered, in the judgement of the Lead Inspector, to be several distinct rooms within one building. Each floor was distinctly separate, and areas of the first floor were divided into work areas as designated on figures and data forms provided.

Inconclusive XRF Results

According to the PCS, Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer does not have an inconclusive range on any of the six discussed substrates (brick, concrete, drywall, metal, plaster, and wood). However, the manufacturer of this device (SciAps) indicates any reading that is at the threshold for lead (1.0 mg/cm^2) with or without 95% confidence level due to thin layering or other condition will register as positive for LBP.

Quality Control Measurements and Samples

For XRF measurements, a minimum of 1% of the shots were repeated for quality control purposes. The repeat shots provide a measure of the precision of the XRF instrument. All repeated readings were within statistical limits of 95% probability of the original shot.

Document Review

Limited documentation review was conducted in advance of this LBP inspection. Plan drawings depicting the footprint of each floor were developed based on available documentation, site observations, and interpolation. Inspectors defined sample locations (homogeneous areas) on a floor-by-floor basis, and to reference areas testing positive for LBP. In the absence of detailed construction history, EnviroNET inspectors combined components of similar construction and painting histories together into homogeneous structures.

Documentation

XRF Scope Sheets were developed during the inspection to indicate the date of the inspection, name of inspector, the structure/unit/room name, sample location, and numerical XRF results of each testing combination. Copies of these sheets are located in the Inspector's file.

The results of the inspection are provided in format compliant with HUD Guidelines, Chapter 7, and this report contains information about testing location, testing combination, paint condition, result levels, and XRF operation mode.

Consistent with requirements, each report or structure has its own unique job number. The job number is a time stamp of when that particular job was started, and which XRF instrument was used to perform the inspection. For this building, the job corresponds to the inspector and the rooms she/he inspected. Two (2) inspectors completed the field work utilizing one (1) XRF as defined above.

X-RAY FLUORESCENCE ANALYZER (XRF) OUTPUT REPORTS

After field assessment is completed, a series of reports are generated to include required information including results of the inspection. The reports are attached in a modified format to impart the significance and locations of areas containing LBP for this specific inspection. The attached reports are as follows:

Photographs

Selected photographs are provided to clarify findings for the reader. Refer to Appendix A.

Summary XRF Report

This report indicates all XRF results at or above the regulatory level, as pre-set by the manufacturer. The regulatory level was pre-set at 1.0 mg/cm². The XRF Summary Report providing locations and results of locations testing positive for LBP is attached as Appendix B.

Detailed XRF Report

The Detailed Report lists every reading taken in each room equivalent inspected. This report is generated and provided as Appendix C.

Figures

Figures are not provided, as they are not particularly instructive or helpful in understanding the results. Very few areas tested positive for LBP, therefore, figures are not provided.

Licenses of the Inspectors

Attached find the current licenses for both inspectors on this project. Refer to Appendices D & E.

PCS from Manufacturer

Attached find the PCS for the instrumentation used for XRF inspection and assessment. Refer to Appendix F.

Definitions

“Room Equivalent” as defined in HUD Chapter 7, may be a living room, a kitchen, a hallway, a bathroom, a stairway, etc. A closet is considered to be “Part” of a room, not a separate room equivalent. For this assessment, each addition or section of each addition to the structure was evaluated as a room.

“Component” is a structure such as a window casing, a door, or a wall etc. that is within a Room Equivalent. A window system, consists of two components; the window sill and the window apron. Each of these two components must be tested separately if they are present. The “Door System” consists for the components of the “Door Panel”, and the “Door Casing/Jamb System”. The door casing system consists of the door casing, header, and door jamb. The door panel and the door casing/jamb system must be tested separately.

“Substrate” is the material upon which the paint or other coating is applied to. There are six basic substrates. They are Brick, Concrete, Drywall, Metal, Plaster, and Wood.

“Testing Combination” is composed of a Room Equivalent, a Component, and a Substrate. Color is no longer considered part of a testing combination under HUD 1997 Revised Guidelines. However, where color may have been considered by the inspector to be of concern, that testing combination was tested.

Only one of each testing combination within a room equivalent (area) was required to be tested. However, at least one test is required on each wall within each room equivalent. All testing combinations within each room equivalent were tested. All four walls within each room equivalent were tested (except as otherwise discussed earlier in this report).

NOTE: Store front windows were exempted from evaluation as they were aluminum, relatively new, and not observed to be painted. The 2nd floor windows exhibited paint on the outside which registered positive for LBP.

Spatial Orientation

Each wall within a room equivalent is labeled “A”, “B”, “C”, or “D” in the reports and on the room diagrams. Throughout this Inspection and Inspection Reports, the A wall is always facing to the East side of the Building. Walls B, C, and D continue around the particular room in a clockwise motion. In this report, Wall A is to the East, Wall B is to the South, Wall C is to the West, and Wall D is to the North.

FINDINGS

A total of 151 XRF readings for Lead Based Paint including calibration readings were taken pertaining to this structure and adjoining structures.

- Table I below summarizes generic components associated with the façade for the specified building that were identified with lead at or above the regulatory level for lead. The condition of areas testing positive for lead was reported as deteriorated.
- Photographs of areas supporting the findings of this report are provided in Appendix A.
- A list of components that tested positive for lead is provided as the **Summary XRF Report** (Appendix B) of this report.
- All XRF readings taken of the facades, regardless of result, can be found in the **Detailed XRF Report** (Appendix C) of the report.

**TABLE I
REGULATED LBP COMPONENTS**

LOCATION/ROOM	COMPONENT and DESCRIPTION	SUBSTRATE	ESTIMATED QUANTITIES
INTERIOR and EXTERIOR FAÇADE NE corner of 1038 6 th St. and exterior pillar along K Avenue	Structural Pillars on Periphery Wall White Paint – some pink above interior suspended acoustic tiles. deteriorated	Concrete	200 LF
INTERIOR Paint 2 nd Floor Vacant Apartment	Yellow and blue wall paint on Plaster Walls facing K Avenue and 6 th Street. deteriorated	Plaster	3000 SF
EXTERIOR FAÇADE paint Windows and window casings, 2 nd floor	Eight pairs of double-hung windows with white paint along 6 th St and K Ave. Deteriorated	Wood	400 LF

SUMMARY DISCUSSION

The exterior of the building did not exhibit painted surfaces except for the vertical concrete columns and the 2nd floor windows, both of which were determined to have regulated LBP concentrations.

Interior areas with LBP were limited to plaster walls on the 2nd floor.

Recommendations for hazard abatement in these areas include:

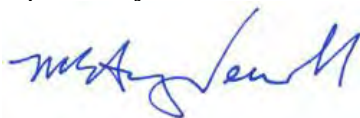
- 1) removal and replacement of the windows, window casings, and associated components based on the condition of the windows.
- 2) wet scrape and treatment of walls on the 2nd floor prior to reapplying interior improvements to walls, including new windows.
 - Interim control may consist of new plaster, or encapsulation with drywall.
 - Abatement would be accomplished by removing interior walls down to the studs.
- 3) wet scrape and repainting of concrete support columns.

We understand other options for interim controls and hazard abatement are available, and we are available to discuss.

CERTIFICATION

The inspection was conducted by experienced lead paint inspector/risk assessors licensed as such by the Illinois Department of Public Health. The work performed complies with HUD guidance and sampling protocols, state, local and other specified regulatory requirements.

Inspected by:



Molly Arp Newell
IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

February 12, 2026

Date

Assisted by:



Ben D. Beydler, Ph.D.
IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

February 12, 2026

Date

Appendices:

- A Photos
- B Summary XRF Report
- C Detailed XRF Report
- D Illinois LIRA LBP License Newell
 Illinois LIRA LBP License Beydler
- E PCS for XRF Analyzer



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDICES



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX A

PHOTOGRAPHS



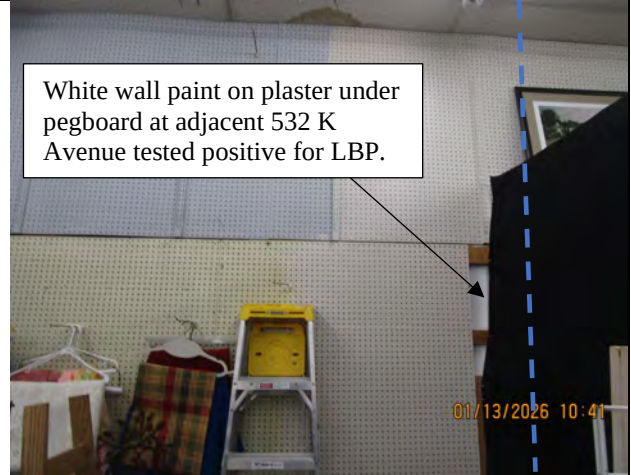
Interior view of NE corner of 1038 consignment shop with picture window façade shown for 6th St.



NE corner shown (street level); drywall & wood partially covering concrete column which is positive for LBP.



Corner column under pink paint, shown here above suspended ceiling tile, tested positive for LBP. White plaster and metal decor not positive.



White wall paint on plaster under pegboard at adjacent 532 K Avenue tested positive for LBP.

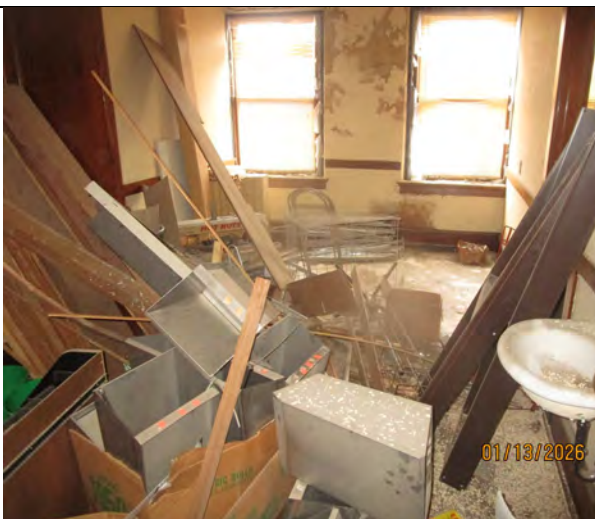
Interior view of location where 1038 6th St. meets 532 K Avenue. Cream-colored paint east of divider wall was not positive; white paint west of divider at 532 K Ave tested positive for LBP.



Exterior view of concrete column with white paint and wood windows with white paint: both positive for LBP.



Alternate view of exterior of 1038 6th St. and 532 K Ave. Windows and vertical columns with white paint tested positive for LBP.

	
View of subject property, looking west. 2nd floor exterior window components tested positive for LBP.	Interior of north side of consignment shop at 1038 6th Ave; much of the wall was covered with wood panels/ pegboard.
	
View of plastered walls on 2nd floor, north side on 1038 6th Street tested positive for LBP.	View of plastered walls on 2nd floor, east side tested positive for LBP.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX B

XRF Summary Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:28	142	1.1	Positive	532K accessed via 1038	Interior	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 526
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrn Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No distructive sampling behind wood panels.
 Original painted concrete architectural embellishments should be considered positive.
 Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX C

Detailed XRF Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:57	130	0	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Consignment Shop
1/13/2026 10:00	131	0.1	Negative	Bldg# 1038/1032	Wall	Wood	A	White	Intact	1	Façade	Storefront - Display area
1/13/2026 10:01	132	0	Negative	Bldg# 1038 Interior	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	133	0.1	Negative	Bldg# 1038	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	134	0	Negative	Bldg# 1038/1032	Wall Shelf	Wood	A	Off-White	Intact	1	Façade	Interior Storefront
1/13/2026 10:05	135	0.1	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	137	0.1	Negative	Bldg# 1038/ 1032	Wall	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:17	139	0.9	Negative	Bldg# 1038/1032	Ceiling	Plaster	A	White	Fair	1	Façade	Ceiling cornice mouldings
1/13/2026 10:17	140	0.1	Negative	Bldg# 1038/1032	Ceiling	Metal	A	White	Intact	1	Façade	Ceiling tin
1/13/2026 10:27	141	0.8	Negative	1038/ 532 K Interior	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
				532K accessed via 1038								
1/13/2026 10:28	142	1.1	Positive	Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:38	143	0.1	Negative	1038 Interior	wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:38	144	0	Negative	1038	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 10:47	146	0	Negative	1038	Wall	Plaster	A	Mauve	Intact	1	Façade	above ceiling tiles
1/13/2026 10:50	147	0	Negative	1038 & 1032	wall	Ext. Panels	A	Mauve	Intact	1	Façade	Exterior
1/13/2026 10:52	148	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	Exterior
1/13/2026 10:53	149	0	Negative	1028 Ext	Window Casing	Wood	A	Black	Intact	1	Façade	Ext. Façade 1028
1/13/2026 10:55	150	0	Negative	1028 Ext	Door	Metal	A	White	Intact	1	Façade	
1/13/2026 10:56	151	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:56	152	0	Negative	1028 Ext	Door Casing	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:57	153	0	Negative	1028 Ext	Door	Wood	A	Black	Intact	1	Façade	Interior 1028
1/13/2026 10:59	154	0	Negative	1028 Ext	Wall	Wood	A	White	Intact	1	Façade	Interior 1028
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 526
1/13/2026 11:13	161	0.1	Negative	526	Door	Metal	A	Brown	Intact	1	Bldg Façade	at entrance
1/13/2026 11:14	162	0.1	Negative	526	Door Casing	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:15	163	0	Negative	526	Door Threshold	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:21	164	0.3	Negative	526 (K-St Wall)	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:24	165	0.6	Negative	526	Wall	Plaster	A		Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:26	167	0.1	Negative	526	Window Casing	Wood	A	Clear	Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:28	168	0.2	Negative	526	Window Frame	Wood	A		Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:31	169	0.2	Negative	532 (K-St Wall)	Wall	Plaster	A	Green	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:33	170	0.2	Negative	532	Ceiling	Plaster	A	Yellow	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:38	171	0.6	Negative	532	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:39	172	0.1	Negative	532	Window Casing	Wood	A	Clear	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:40	173	0.1	Negative	532	Wall chair rail	Wood	A		Deteriorated	2	Bldg Façade	Upstairs 532



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:46	176	0.2	Negative	1038	Window Casing	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:47	177	0	Negative	1038	Wall	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:52	180	0.2	Negative	1038	Ceiling	Plaster	A	off white	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:53	181	0.2	Negative	1038	Wall chair rail	Wood	A	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 12:08	184	0	Negative	1032	East Wall (6th Ave)	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:09	185	0.2	Negative	1032	Window Casing	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:10	186	0.1	Negative	1032	Window sash	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:11	187	0	Negative	1032	Wall	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:12	188	0	Negative	1032	Ceiling	Plaster	A	White	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:20	189	0	Negative	1028 Ext lower level	Shake & Energy Bar	Wood trim	A	Black	Deteriorated	1	Bldg Facade	first floor 1028
1/13/2026 12:20	190	0	Negative	1028 Int	Wall	Wood	A	Black	Intact	1	Bldg Facade	coffee shop
1/13/2026 12:22	191	0	Negative	1028 Int	Window	Wood	A	Black	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:23	192	0	Negative	1028 Int	Door Casing	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:24	193	0	Negative	1028 Int	Door	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:54	194	0	Negative	1110 Ext	Wall	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	195	0	Negative	1110 Int.	Window	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	196	0	Negative	1110 Int.	Window casing	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:57	197	0	Negative	1110 Int.	Floor trim	wood	A	White	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 13:17	198	0	Negative	1110 Int. Kitchen	Window Sill	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:17	199	0	Negative	1110 Int.	Window	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:18	200	0	Negative	1110 Int.	wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	201	0	Negative	1110 Int. Bdrm	Wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	202	0	Negative	1110 Int.	Window well	Wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:25	203	0	Negative	1110 Int.	Wall above drop ceiling	Concrete	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrm Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 13:41	209	0	Negative	1104 Back Hallway	Door Trim	Metal	A		Intact	1	Bldg Facade	bottom of stairs
1/13/2026 13:46	210	0	Negative	moving towards Turret	Wall	Drywall	A	Gray	Intact	1	Bldg Facade	
1/13/2026 13:48	211	0	Negative	1104 South 1/2	Wall	Drywall	A	white	Intact	1	Bldg Facade	
1/13/2026 13:49	212	0	Negative	1104 South 1/2	Window Casing	Wood	A	White	Intact	1	Bldg Facade	
1/13/2026 14:13	213	0	Negative	1104 Exterior	Ext. K St. Wall	Wood	D	White	Intact	1	Bldg Facade	
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	215	0.1	Negative	1104 Exterior	Corner column	concrete	D	Red	Intact	1	Bldg Facade	
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:17	217	0	Negative	1104 Exterior	Ext Window casing Trim	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:17	218	0	Negative	1104 Exterior	Ext 6th St. window	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:22	219	0.1	Negative	1104 Ext Upper floor	Ext. K St. Wall	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	222	0.1	Negative	1104 Ext Upper floor	Ext K St. Wall paint	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:52	231	0.1	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:52	232	0.5	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:53	233	0	Negative	1028 Ext	Wall on Wood	Wood	A	Off-White	fair	2	Bldg Facade	Exterior 1028
1/13/2026 14:54	234	2.3	Positive	1028 Ext	window frame arch	Brick	A	White over red	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	236	0	Negative	1028 Ext	board between shutters	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:06	238	0.1	Negative	1032 Ext 6th St	Wall	Brick	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:06	239	0.9	Negative	1032 Ext 6th St	Wall arch over window	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:08	242	0	Negative	1032 Ext 6th St	Wall	Brick	A	above the awr	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	243	0.8	Negative	1032 Ext 6th St	Architectural arch	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:16	245	0	Negative	1038 Ext 6th St.	Shutter	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 15:16	246	0	Negative	1038 Ext 6th St.	Panel board between shutters	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:26	248	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:29	252	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A	white	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:30	253	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	254	0	Negative	1104 Ext 2nd Fl	wall panel embellishment	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	255	0	Negative	1104 Ext 2nd Fl	structural column	brick	A	white- protudin	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:33	256	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:37	257	0	Negative	1110 Ext 2nd Fl	wall	wood	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	258	0.8	Negative	1110 Ext 2nd Fl	wall	Brick	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	259	0.4	Negative	1110 Ext 2nd Fl	wall	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:39	261	0	Negative	1110 Ext 2nd Fl	window casing	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:40	262	0.6	Negative	1110 Ext 2nd Fl	brick	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	263	0.5	Negative	1110 Ext 2nd Fl	window sash	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:47	265	0	Negative	1122 Ext 2nd Fl	wall	Brick	A	Red	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:49	267	0	Negative	1122 Ext 2nd Fl	lateral trim - sill lower level	concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:50	268	0	Negative	1122 Ext 2nd Fl	wood panel	wood	A	Yellow	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:56	271	0.9	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 15:56	272	0.7	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 16:00	273	0	Negative	1122 Int 2nd Fl	window well inset	wood	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:00	274	0	Negative	1122 Int 2nd Fl	window well inset	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	275	0	Negative	1122 Int 2nd Fl	wall	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	276	0	Negative	1122 Int 2nd Fl	wall	wood	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:09	277	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	278	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	279	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	280	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No destructive sampling behind wood panels.

Original painted concrete architectural embellishments should be considered positive.

Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX D

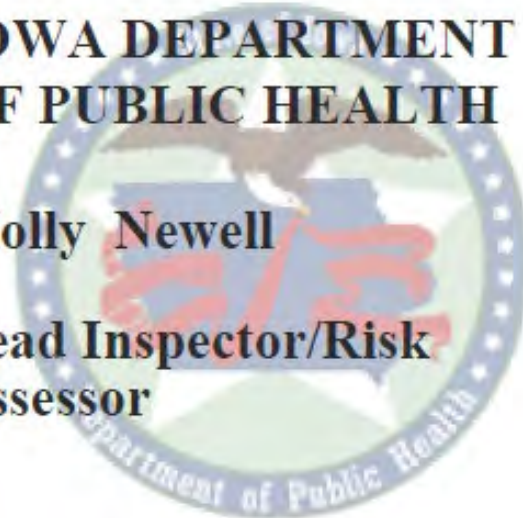
Inspector License



**IOWA DEPARTMENT
OF PUBLIC HEALTH**

Molly Newell

**Lead Inspector/Risk
Assessor**



Certification Number: LEAD-INSP10159

Expiration Date: March 10, 2027



IOWA

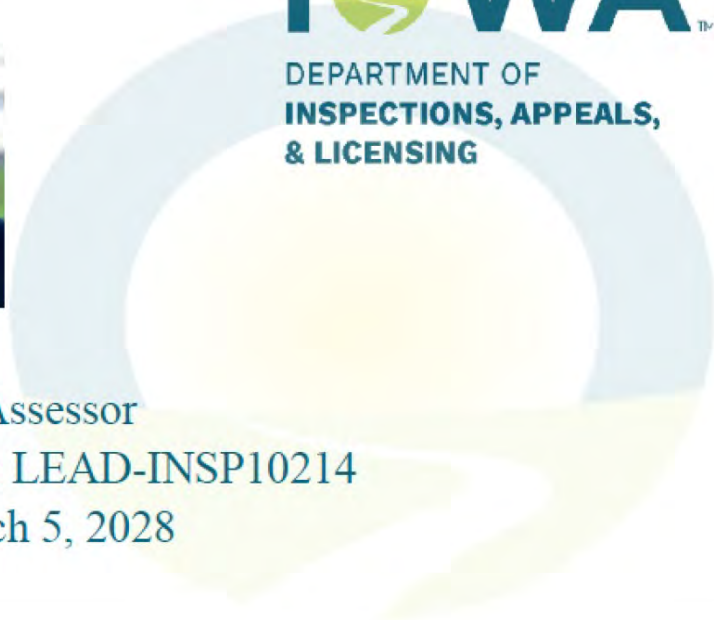
DEPARTMENT OF
**INSPECTIONS, APPEALS,
& LICENSING**

Ben Beydler

Lead Inspector/Risk Assessor

Certification Number: LEAD-INSP10214

Expiration Date: March 5, 2028





EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX E

XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2024

MANUFACTURER AND MODEL:

Make: *SciAps*

Models: *Model X-550*

X-Ray Source: *Tungsten (W) Anode*

serial#04174 DOM202510

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm²

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm² to use this PCS.

OPERATING PARAMETERS:

“Two-sigma stop” mode: variable-time reading

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm ² (inclusive) on NIST SRM 2579 (1.02 mg/cm ²)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

W Anode (Two-sigma stop 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*, 2012 Edition ("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 December 2023, with two separate Tungsten-anode instruments, operated in two-sigma stop mode.

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; for NIST SRM 2579a, use film 2573 (1.04 mg/cm²)).

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.

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. In single-family and multifamily 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

The instrument did not report testing times.

CLASSIFICATION OF RESULTS:

XRF results for the W Anode in two-sigma stop mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm² and **negative** if they are **less than** 1.0 mg/cm².

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm² 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>. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

INSPECTION REPORT LEAD-BASED PAINT

1104 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247_LBP CONTRACT # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

INTRODUCTION

This is a Lead-Based Paint (LBP) Inspection Report for the building located at 1104 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The two-story building on the corner of K Avenue and 6th Street was observed to be constructed of brick with vertical supports, also of brick, with a lateral layer of concrete (painted white) at the elevation corresponding to the concrete window sills on K Avenue and on 6th Street. A second horizontal white stripe was observed on both exterior facades as a focal detail connecting pairs of windows which were further embellished with architectural concrete moldings around the uppermost windowpanes. A turret painted white with windows was observed on the corner, at the upstairs second-floor level.

Some plaster over structural brick (original) was observed on interior of peripheral walls together with other various finishes.

Access to one upper-level apartment (northeast, currently an Air B&B rental) was available; other apartments on the second floor were reportedly updated and renovated with common materials over common brick substructure. Second floor apartments were not accessed with the exception of the Air B&B unit.

Limitations:

The inspection was limited to exterior and interior painted, shellacked or varnished surfaces associated with the façades facing 6th Street and K Avenue. Exterior soils and interior dust were not included in the scope of work because 1) exterior soils subject to applicable rules were not identified around the building foundation and 2) dust wipe sampling was not applicable at time of inspection.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection vs. date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

This inspection is not a comprehensive LBP Inspection as defined by the United States Department of Housing and Urban Development (HUD) 24 CFR Part 35 Subpart R and HUD Guidelines for Evaluation and Control of LBP hazards in Housing Chapter 7, revision 2012 based on limitations specified above. The structure does not currently meet the criteria of a regulated facility under IEPA or HUD regulations. Even so, HUD protocols are the industry standard and HUD-like protocols and inspection criteria were followed as discussed below in Governing protocols.

- identify locations and concentrations of regulated lead-based paint along with paint condition,
- protect workers during deconstruction and renovation,
- minimize the potential for lead dust to become airborne, and
- ensure appropriate management of lead waste.

Professional service guidance will be provided by EnviroNET to the City of Nevada upon request regarding contractor services to:

- control or eliminate lead-based paint hazards going forward,
- ensure work involving LBP is performed by certified and trained workers in accordance with EPA's Renovation, Repair and Painting (RRR) Rule
- provide residents with proper notices and disclosures about the presence and hazards of LBP as required under Subpart B of 24 CFR Part 35,
- perform clearance procedures after hazard control work, including proper testing by certified risk assessors and / or clearance technicians,
- Keep and submit records and records demonstrating compliance with the Lead Safe Housing Rule.

The upstairs residence units were updated and renovated as shown in the photographs. Facilities leased with LBP, before or after renovation, are required to provide lead-safe literature for occupants. Documentation of environmental closure of LBP remediation, if any, should be documented as well as issuance of lead-safe literature for occupants.

Scope of Work

Painted, varnished and shellacked surfaces on both floors of the facility were assessed on an area-by-area and surface by surface basis using an X-ray Fluorescence (XRF) instrument designed for this specialty purpose. Exterior elements of the exterior façade were inspected and assessed with the XRF meter. Field activities were conducted on January 13, 2026, by two qualified and licensed EnviroNET employees.

Observation determined current construction of 1104 6th Street comprises a rectangular shaped footprint with historical architectural features as described in the introduction above.

This report documents compliance with contract obligations, including narrative and tabular presentation of findings with attachments including photographs depicting site conditions and findings, detailed print out of analytical results as determined using X-ray Fluorescence technology, a Summary XRF report of areas and components testing positive for lead, figures depicting areas and components with regulated LBP, accreditation for the Inspectors performing the work, and the Performance Characteristic Sheet for the instrument used. Attachments are to be used in conjunction with the text of this Report and are not intended for use apart from the text.

GOVERNING PROTOCOLS

The protocol used for this inspection is based on the practices and procedures in the United States Department of Housing and Urban Development's (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Revision (HUD Guidelines) including the 1997 Chapter 7 revisions, and the United States Environmental Protection Agency's (USEPA) latest revisions to 40 CFR Part 745 (*Lead; Identification of Dangerous Levels of Lead; Final Rule; January 7, 2021*). USEPA updated minimum clearance levels for dust on horizontal surfaces; HUD established and updated protocols for Lead Based Paint Inspections.

The HUD Guidelines, USEPA 40 CFR Part 745 and state authorities agree that the level of 1.0 mg/cm² defines regulated LBP. This inspection was conducted using this level as the criteria for defining positive vs. negative readings for LBP. Readings equal to or greater than 1.0 mg/cm² is considered by State and Federal law to be positive for LBP.

INSPECTION METHODOLOGY

X-Ray Fluorescence Analyzer (XRF) instrumentation was utilized to test painted surfaces. Suspect materials that were painted, varnished, shellacked, stained, or otherwise coated and within the area defined as the scope of work were inspected.

XRF Operational Requirements

The following requirements were followed for XRF testing performed during this inspection.

Safety Considerations

XRF instruments were only operated by individuals who have successfully completed the Manufacturer's Training requirements for the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. Care was taken not to expose occupants or workers to measurable amounts of radiation during the inspection process.

Instrument Selection

The instruments used to perform the inspection were the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. The instrument was manufactured by SciAps; serial #04174 DOM202510. The required Performance Characteristic Sheet (PCS) is attached to this Report.

The controlled depth of each reading associated with a discrete surface or component is configured into calibration to limit the influence of lead pipes or other objects located below the designated test location, such as within a wall.

Instrument Calibration

Three calibration checks each are taken using a National Institute of Standards and Testing (NIST) 0.8 to 1.02 mg/cm² standard using a manufacturer's calibration block consisting of a specialty steel plate. Additional NIST calibration is completed with a wood block, also furnished by the manufacturer. Through iteration, the instrument checks and double-checks itself with pass/fail determinations. These checks are taken at the beginning of each day (or job), and at the end of each day (or job). Calibrations are performed more frequently if the equipment provides a calibration alert. The XRF instrument was operating within the PCS specifications during this inspection. Documentation of calibration checks can be found throughout this report.

Substrate Correction

The inspection measurements are taken in the "PCS Mode." In the "PCS Mode," the analyzer seeks the shortest period of time to assure a definitive measurement with a 95% confidence. The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer concludes a measurement once this level of confidence is achieved, typically between 2 and 4 seconds depending on the regulatory level, which is set in the machine before the inspection begins. The PCS indicates that no substrate correction is required when the instrument is operated in the PCS mode.

Interference

The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer is not affected by spectral interference. It works well on curved surfaces, but flat surfaces were tested whenever possible. All measurements were reported on the raw data forms and are provided as the detailed XRF data within this report.

XRF Measurement Requirements

The building was considered, in the judgement of the Lead Inspector, to be several distinct rooms within one building. Each floor was distinctly separate, and areas of the first floor were divided into work areas as designated on figures and data forms provided.

Inconclusive XRF Results

According to the PCS, Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer does not have an inconclusive range on any of the six discussed substrates (brick, concrete, drywall, metal, plaster, and wood). However, the manufacturer of this device (SciAps) indicates any reading that is at the threshold for lead (1.0 mg/cm^2) with or without 95% confidence level due to thin layering or other condition will register as positive for LBP.

Quality Control Measurements and Samples

For XRF measurements, a minimum of 1% of the shots were repeated for quality control purposes. The repeat shots provide a measure of the precision of the XRF instrument. All repeated readings were within statistical limits of 95% probability of the original shot.

Document Review

Limited documentation review was conducted in advance of this LBP inspection. Plan drawings depicting the footprint of each floor were developed based on available documentation, site observations, and interpolation. Inspectors defined sample locations (homogeneous areas) on a floor-by-floor basis, and to reference areas testing positive for LBP. In the absence of detailed construction history, EnviroNET inspectors combined components of similar construction and painting histories together into homogeneous structures.

Documentation

XRF Scope Sheets were developed during the inspection to indicate the date of the inspection, name of inspector, the structure/unit/room name, sample location, and numerical XRF results of each testing combination. Copies of these sheets are located in the Inspector's file.

The results of the inspection are provided in format compliant with HUD Guidelines, Chapter 7, and this report contains information about testing location, testing combination, paint condition, result levels, and XRF operation mode.

Consistent with requirements, each report or structure has its own unique job number. The job number is a time stamp of when that particular job was started, and which XRF instrument was used

to perform the inspection. For this building, the job corresponds to the inspector and the rooms she/he inspected. Two (2) inspectors completed the field work utilizing one (1) XRF as defined above.

X-RAY FLUORESCENCE ANALYZER (XRF) OUTPUT REPORTS

After field assessment is completed, a series of reports are generated to include required information including results of the inspection. The reports are attached in a modified format to impart the significance and locations of areas containing LBP for this specific inspection. The attached reports are as follows:

Photographs

Selected photographs are provided to clarify findings for the reader. Refer to Appendix A.

Summary XRF Report

This report indicates all XRF results at or above the regulatory level, as pre-set by the manufacturer. The regulatory level was pre-set at 1.0 mg/cm². The XRF Summary Report providing locations and results of locations testing positive for LBP is attached as Appendix B.

Detailed XRF Report

The Detailed Report lists every reading taken in each room equivalent inspected. This report is generated and provided as Appendix C.

Figures

Figures are not provided, as they are not particularly instructive or helpful in understanding the results. Very few areas tested positive for LBP, therefore, figures are not provided.

Licenses of the Inspectors

Attached find the current licenses for both inspectors on this project. Refer to Appendices D & E.

PCS from Manufacturer

Attached find the PCS for the instrumentation used for XRF inspection and assessment. Refer to Appendix F.

Definitions

“Room Equivalent” as defined in HUD Chapter 7, may be a living room, a kitchen, a hallway, a bathroom, a stairway, etc. A closet is considered to be “Part” of a room, not a separate room equivalent. For this assessment, each addition or section of each addition to the structure was evaluated as a room.

“Component” is a structure such as a window casing, a door, or a wall etc. that is within a Room Equivalent. A window system, consists of two components; the window sill and the window apron. Each of these two components must be tested separately if they are present. The “Door System” consists for the components of the “Door Panel”, and the “Door Casing/Jamb System”. The door casing system consists of the door casing, header, and door jamb. The door panel and the door casing/jamb system must be tested separately.

“Substrate” is the material upon which the paint or other coating is applied to. There are six basic substrates. They are Brick, Concrete, Drywall, Metal, Plaster, and Wood.

“Testing Combination” is composed of a Room Equivalent, a Component, and a Substrate. Color is no longer considered part of a testing combination under HUD 1997 Revised Guidelines. However, where color may have been considered by the inspector to be of concern, that testing combination was tested.

Only one of each testing combination within a room equivalent (area) was required to be tested. However, at least one test is required on each wall within each room equivalent. All testing combinations within each room equivalent were tested. All four walls within each room equivalent were tested (except as otherwise discussed earlier in this report).

Spatial Orientation

Each wall within a room equivalent is labeled “A”, “B”, “C”, or “D” in the reports and on the room diagrams. Throughout this Inspection and Inspection Reports, the A wall is always facing to the South side of the Building. Walls B, C, and D continue around the particular room in a clockwise motion. In this report, Wall A is to the East, Wall B is to the South, Wall C is to the West, and Wall D is to the North.

FINDINGS

A total of 151 XRF readings for Lead Based Paint including calibration readings were taken pertaining to this structure and adjoining structures in the scope of work.

- Table I below summarizes generic components associated with the façade for the specified building that were identified with lead at or above the regulatory level for lead. The condition of areas testing positive for lead was reported as deteriorated.
- Photographs of areas supporting the findings of this report are provided in Appendix A.
- A list of components that tested positive for lead is provided as the **Summary XRF Report** (Appendix B) of this report.
- All XRF readings taken of the facades, regardless of result, can be found in the **Detailed XRF Report** (Appendix C) of the report.

TABLE I
GENERAL LBP COMPONENTS

LOCATION/ROOM	COMPONENT	SUBSTRATE	ESTIMATED QUANTITIES
EXTERIOR 2 nd -floor exterior walls K Ave and 6 th Street	Window casing/sill/ soffit Stripes connecting windows architectural arches above windows White Paint Condition In-tact	Wood, concrete	12 such windows present, total <2500 ft ² White Paint stripes ~ 150 ft ²
EXTERIOR 2 nd floor turret	White Paint Condition In-tact	Wood, concrete	<500 ft ²
EXTERIOR 1 st floor exterior wall	Brick Red Paint over (previous) LBP paint Condition In-tact	brick	<2000 ft ²
INTERIOR 2 nd Floor Apartments/ Air B&B	Renovated Apartment(s) All window components and wood embellishments (original) Condition In-tact No action required at time of inspection	wood	12 such windows present, total <3000 ft ² ; Other wood <100 ft ²

SUMMARY DISCUSSION

The exterior of the building exhibited painted surfaces as shown above. Interior areas with LBP included original wood window casings, wall trim and floor trim.

Recommendations for hazard abatement in these areas include:

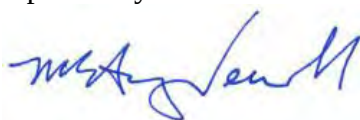
- 1) Wet scrape and treatment of exterior of turret; or otherwise remove presence of exterior paint from turret. Interim control may consist of encapsulation with architecturally compatible weather-proof materials.
- 2) Removal of loose paint on concrete ledges prior to repainting.
- 3) LBP paint on lower-level brick exterior is under most recent coat of red paint. Proposed rendering includes removal of paint from building exterior, which will require containment of paint chips and or multi-method removal and recovery steps to restore original brick face, as may be required.

We understand other options for interim controls and hazard abatement are available, and we are available to discuss.

CERTIFICATION

The inspection was conducted by experienced lead paint inspector/risk assessors licensed as such by the State of Iowa. The work performed complies with HUD guidance and sampling protocols, state, local and other specified regulatory requirements.

Inspected by:

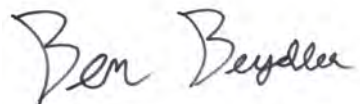


Molly Arp Newell
IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

February 12, 2026

Date

Assisted by:



Ben D. Beydler, Ph.D.
IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

February 12, 2026

Date

Appendices:

- A Photos
- B Summary XRF Report
- C Detailed XRF Report
- D Iowa License Newell
- E Iowa License Beydler
- F PCS for XRF Analyzer



EnviroNET, Inc.
BP Report 1104 6th St., Nevada, IA
February 2026

APPENDICES



EnviroNET, Inc.
BP Report 1104 6th St., Nevada, IA
February 2026

APPENDIX A

PHOTOGRAPHS



Positive for LBP
First Floor Exterior

View of subject property, looking northwest. First floor occupied by Lunar Parlor lower level; 2nd floor apartments.

Lower level EXTERIOR paint on brick and white around area at sidewalk level, **positive for LBP.**



View of testing of 2nd level exterior. Window components (all windows), turret and soffit **positive for LBP** on K Avenue and 6th St.
Lateral striping (on concrete) connecting windows tested **positive for LBP.**



View of interior window surface in Air B&B, wood surfaces (original construction) **positive for LBP.**



View of bedroom interior windows in Air B&B, wood surfaces (original construction) **positive for LBP.**



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX B

XRF Summary Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:28	142	1.1	Positive	532K accessed via 1038	Interior	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 526
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrn Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No distructive sampling behind wood panels.
 Original painted concrete architectural embellishments should be considered positive.
 Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX C

Detailed XRF Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:57	130	0	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Consignment Shop
1/13/2026 10:00	131	0.1	Negative	Bldg# 1038/1032	Wall	Wood	A	White	Intact	1	Façade	Storefront - Display area
1/13/2026 10:01	132	0	Negative	Bldg# 1038 Interior	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	133	0.1	Negative	Bldg# 1038	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	134	0	Negative	Bldg# 1038/1032	Wall Shelf	Wood	A	Off-White	Intact	1	Façade	Interior Storefront
1/13/2026 10:05	135	0.1	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	137	0.1	Negative	Bldg# 1038/ 1032	Wall	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:17	139	0.9	Negative	Bldg# 1038/1032	Ceiling	Plaster	A	White	Fair	1	Façade	Ceiling cornice mouldings
1/13/2026 10:17	140	0.1	Negative	Bldg# 1038/1032	Ceiling	Metal	A	White	Intact	1	Façade	Ceiling tin
1/13/2026 10:27	141	0.8	Negative	1038/ 532 K Interior	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
				532K accessed via 1038								
1/13/2026 10:28	142	1.1	Positive	Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:38	143	0.1	Negative	1038 Interior	wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:38	144	0	Negative	1038	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 10:47	146	0	Negative	1038	Wall	Plaster	A	Mauve	Intact	1	Façade	above ceiling tiles
1/13/2026 10:50	147	0	Negative	1038 & 1032	wall	Ext. Panels	A	Mauve	Intact	1	Façade	Exterior
1/13/2026 10:52	148	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	Exterior
1/13/2026 10:53	149	0	Negative	1028 Ext	Window Casing	Wood	A	Black	Intact	1	Façade	Ext. Façade 1028
1/13/2026 10:55	150	0	Negative	1028 Ext	Door	Metal	A	White	Intact	1	Façade	
1/13/2026 10:56	151	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:56	152	0	Negative	1028 Ext	Door Casing	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:57	153	0	Negative	1028 Ext	Door	Wood	A	Black	Intact	1	Façade	Interior 1028
1/13/2026 10:59	154	0	Negative	1028 Ext	Wall	Wood	A	White	Intact	1	Façade	Interior 1028
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 526
1/13/2026 11:13	161	0.1	Negative	526	Door	Metal	A	Brown	Intact	1	Bldg Façade	at entrance
1/13/2026 11:14	162	0.1	Negative	526	Door Casing	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:15	163	0	Negative	526	Door Threshold	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:21	164	0.3	Negative	526 (K-St Wall)	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:24	165	0.6	Negative	526	Wall	Plaster	A		Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:26	167	0.1	Negative	526	Window Casing	Wood	A	Clear	Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:28	168	0.2	Negative	526	Window Frame	Wood	A		Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:31	169	0.2	Negative	532 (K-St Wall)	Wall	Plaster	A	Green	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:33	170	0.2	Negative	532	Ceiling	Plaster	A	Yellow	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:38	171	0.6	Negative	532	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:39	172	0.1	Negative	532	Window Casing	Wood	A	Clear	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:40	173	0.1	Negative	532	Wall chair rail	Wood	A		Deteriorated	2	Bldg Façade	Upstairs 532



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:46	176	0.2	Negative	1038	Window Casing	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:47	177	0	Negative	1038	Wall	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:52	180	0.2	Negative	1038	Ceiling	Plaster	A	off white	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:53	181	0.2	Negative	1038	Wall chair rail	Wood	A	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 12:08	184	0	Negative	1032	East Wall (6th Ave)	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:09	185	0.2	Negative	1032	Window Casing	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:10	186	0.1	Negative	1032	Window sash	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:11	187	0	Negative	1032	Wall	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:12	188	0	Negative	1032	Ceiling	Plaster	A	White	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:20	189	0	Negative	1028 Ext lower level	Shake & Energy Bar	Wood trim	A	Black	Deteriorated	1	Bldg Facade	first floor 1028
1/13/2026 12:20	190	0	Negative	1028 Int	Wall	Wood	A	Black	Intact	1	Bldg Facade	coffee shop
1/13/2026 12:22	191	0	Negative	1028 Int	Window	Wood	A	Black	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:23	192	0	Negative	1028 Int	Door Casing	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:24	193	0	Negative	1028 Int	Door	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:54	194	0	Negative	1110 Ext	Wall	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	195	0	Negative	1110 Int.	Window	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	196	0	Negative	1110 Int.	Window casing	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:57	197	0	Negative	1110 Int.	Floor trim	wood	A	White	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 13:17	198	0	Negative	1110 Int. Kitchen	Window Sill	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:17	199	0	Negative	1110 Int.	Window	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:18	200	0	Negative	1110 Int.	wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	201	0	Negative	1110 Int. Bdrm	Wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	202	0	Negative	1110 Int.	Window well	Wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:25	203	0	Negative	1110 Int.	Wall above drop ceiling	Concrete	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrm Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 13:41	209	0	Negative	1104 Back Hallway	Door Trim	Metal	A		Intact	1	Bldg Facade	bottom of stairs
1/13/2026 13:46	210	0	Negative	moving towards Turret	Wall	Drywall	A	Gray	Intact	1	Bldg Facade	
1/13/2026 13:48	211	0	Negative	1104 South 1/2	Wall	Drywall	A	white	Intact	1	Bldg Facade	
1/13/2026 13:49	212	0	Negative	1104 South 1/2	Window Casing	Wood	A	White	Intact	1	Bldg Facade	
1/13/2026 14:13	213	0	Negative	1104 Exterior	Ext. K St. Wall	Wood	D	White	Intact	1	Bldg Facade	
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	215	0.1	Negative	1104 Exterior	Corner column	concrete	D	Red	Intact	1	Bldg Facade	
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:17	217	0	Negative	1104 Exterior	Ext Window casing Trim	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:17	218	0	Negative	1104 Exterior	Ext 6th St. window	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:22	219	0.1	Negative	1104 Ext Upper floor	Ext. K St. Wall	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	222	0.1	Negative	1104 Ext Upper floor	Ext K St. Wall paint	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:52	231	0.1	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:52	232	0.5	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:53	233	0	Negative	1028 Ext	Wall on Wood	Wood	A	Off-White	fair	2	Bldg Facade	Exterior 1028
1/13/2026 14:54	234	2.3	Positive	1028 Ext	window frame arch	Brick	A	White over red	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	236	0	Negative	1028 Ext	board between shutters	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:06	238	0.1	Negative	1032 Ext 6th St	Wall	Brick	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:06	239	0.9	Negative	1032 Ext 6th St	Wall arch over window	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:08	242	0	Negative	1032 Ext 6th St	Wall	Brick	A	above the awr	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	243	0.8	Negative	1032 Ext 6th St	Architectural arch	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:16	245	0	Negative	1038 Ext 6th St.	Shutter	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 15:16	246	0	Negative	1038 Ext 6th St.	Panel board between shutters	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:26	248	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:29	252	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A	white	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:30	253	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	254	0	Negative	1104 Ext 2nd Fl	wall panel embellishment	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	255	0	Negative	1104 Ext 2nd Fl	structural column	brick	A	white- protudin	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:33	256	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:37	257	0	Negative	1110 Ext 2nd Fl	wall	wood	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	258	0.8	Negative	1110 Ext 2nd Fl	wall	Brick	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	259	0.4	Negative	1110 Ext 2nd Fl	wall	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:39	261	0	Negative	1110 Ext 2nd Fl	window casing	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:40	262	0.6	Negative	1110 Ext 2nd Fl	brick	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	263	0.5	Negative	1110 Ext 2nd Fl	window sash	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:47	265	0	Negative	1122 Ext 2nd Fl	wall	Brick	A	Red	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:49	267	0	Negative	1122 Ext 2nd Fl	lateral trim - sill lower level	concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:50	268	0	Negative	1122 Ext 2nd Fl	wood panel	wood	A	Yellow	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:56	271	0.9	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 15:56	272	0.7	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 16:00	273	0	Negative	1122 Int 2nd Fl	window well inset	wood	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:00	274	0	Negative	1122 Int 2nd Fl	window well inset	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	275	0	Negative	1122 Int 2nd Fl	wall	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	276	0	Negative	1122 Int 2nd Fl	wall	wood	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:09	277	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	278	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	279	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	280	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No destructive sampling behind wood panels.

Original painted concrete architectural embellishments should be considered positive.

Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX D

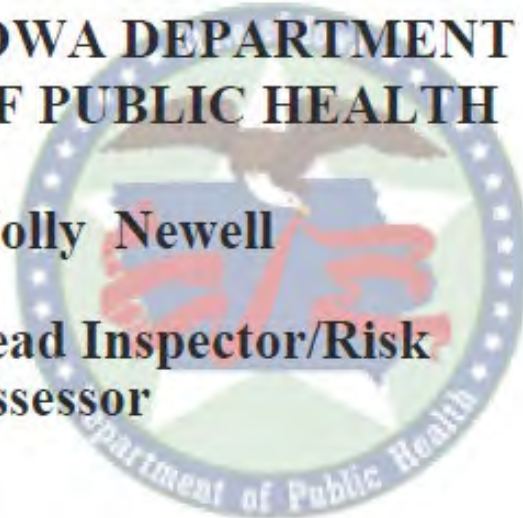
Inspector License



**IOWA DEPARTMENT
OF PUBLIC HEALTH**

Molly Newell

**Lead Inspector/Risk
Assessor**



Certification Number: LEAD-INSP10159

Expiration Date: March 10, 2027



IOWA

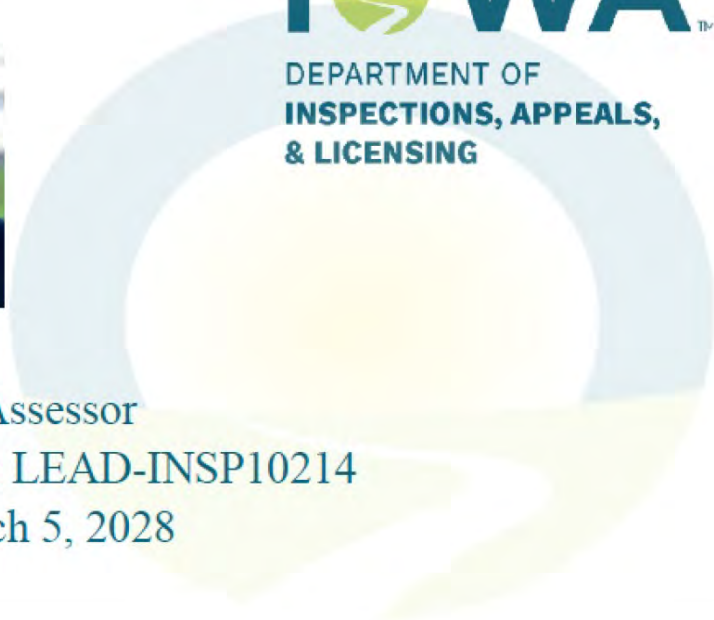
DEPARTMENT OF
**INSPECTIONS, APPEALS,
& LICENSING**

Ben Beydler

Lead Inspector/Risk Assessor

Certification Number: LEAD-INSP10214

Expiration Date: March 5, 2028





EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX E

XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2024

MANUFACTURER AND MODEL:

Make: **SciAps**

Models: **Model X-550**

X-Ray Source: **Tungsten (W) Anode**

serial#04174 DOM202510

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm²

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm² to use this PCS.

OPERATING PARAMETERS:

“Two-sigma stop” mode: variable-time reading

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) on NIST SRM 2579 (1.02 mg/cm²)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

W Anode (Two-sigma stop 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*, 2012 Edition ("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 December 2023, with two separate Tungsten-anode instruments, operated in two-sigma stop mode.

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; for NIST SRM 2579a, use film 2573 (1.04 mg/cm²)).

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.

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. In single-family and multifamily 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

The instrument did not report testing times.

CLASSIFICATION OF RESULTS:

XRF results for the W Anode in two-sigma stop mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm² and **negative** if they are **less than** 1.0 mg/cm².

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm² 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>. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

INSPECTION REPORT LEAD-BASED PAINT

1110 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247_LBP CONTRACT # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

INTRODUCTION

This is a Lead-Based Paint (LBP) Inspection Report for the building located at 1110 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The two-story building was observed to be constructed of brick with partial wood siding. Interiors also exhibited various finishes.

Access to one upper-level apartment was available; other apartments on the second floor were not accessed.

Limitations:

The inspection was limited to exterior and interior painted, shellacked or varnished surfaces associated with the façade facing 6th Street. Exterior soils and interior dust were not included in the scope of work because 1) exterior soils subject to applicable rules and guidance were not identified around the building foundation and 2) dust wipe sampling was not applicable at time of inspection.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection vs. date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

This inspection is not a comprehensive LBP Inspection as defined by the United States Department of Housing and Urban Development (HUD) based on limitations specified above. The structure does not currently meet the criteria of a regulated facility under IEPA or HUD regulations. Even so, HUD protocols are the industry standard and HUD protocols and inspection criteria were followed as discussed below in Governing protocols.

- identify locations and concentrations of regulated lead-based paint along with paint condition,
- protect workers during deconstruction and renovation,
- minimize the potential for lead dust to become airborne, and
- ensure appropriate management of lead waste.

Professional service guidance will be provided by EnviroNET to the City of Nevada upon request regarding contractor services to:

- control or eliminate lead-based paint hazards going forward,
- ensure work involving LBP is performed by certified and trained workers in accordance with EPA's Renovation, Repair and Painting (RRR) Rule
- provide residents with proper notices and disclosures about the presence and hazards of LBP as required under Subpart B of 24 CFR Part 35,
- perform clearance procedures after hazard control work, including proper testing by certified risk assessors and / or clearance technicians,
- Keep and submit records and records demonstrating compliance with the Lead Safe Housing Rule.

If portions of the facility with LBP are renovated for residential occupancy, reassessment for environmental closure of LBP remediation should be documented as well as issuance of lead-safe literature for occupants.

Scope of Work

Painted, varnished and shellacked surfaces on both floors of the facility were assessed on an area-by-area and surface by surface basis using an X-ray Fluorescence (XRF) instrument designed for this specialty purpose. Exterior elements of the exterior façade were inspected and assessed with the XRF meter. Field activities were conducted on January 13, 2026, by two qualified and licensed EnviroNET employees.

Observation determined current construction of 1110 6th Street comprises a rectangular shaped footprint.

This report documents compliance with contract obligations, including narrative and tabular presentation of findings with attachments including photographs depicting site conditions and findings, and detailed print out of analytical results as determined using X-ray Fluorescence technology, a Summary XRF report of areas and components testing positive for lead, figures depicting areas and components with regulated LBP, accreditation for the Inspectors performing the work, and the Performance Characteristic Sheet for the instrument used. Attachments are to be used in conjunction with the text of this Report and are not intended for use apart from the text.

GOVERNING PROTOCOLS

The protocol used for this inspection is based on the practices and procedures in the United States Department of Housing and Urban Development's (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Revision (HUD Guidelines) including the 1997 Chapter 7 revisions, and the United States Environmental Protection Agency's (USEPA) latest revisions to 40 CFR Part 745 (*Lead; Identification of Dangerous Levels of Lead; Final Rule; January 7, 2021*). USEPA updated minimum clearance levels for dust on horizontal surfaces; HUD established and updates protocols for Lead Based Paint Inspections.

The HUD Guidelines, USEPA 40 CFR Part 745, and state guidelines have agreed that the level of 1.0 mg/cm² defines regulated LBP. This inspection was conducted using this level as the criteria for defining positive vs. negative readings for LBP. Readings equal to or greater than 1.0 mg/cm² is considered by State and Federal law to be positive for LBP.

INSPECTION METHODOLOGY

X-Ray Fluorescence Analyzer (XRF) instrumentation was utilized to test painted surfaces. Suspect materials that were painted, varnished, shellacked, stained, or otherwise coated and within the area defined as the scope of work were inspected.

XRF Operational Requirements

The following requirements were followed for XRF testing performed during this inspection.

Safety Considerations

XRF instruments were only operated by individuals who have successfully completed the Manufacturer's Training requirements for the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. Care was taken not to expose occupants or workers to measurable amounts of radiation during the inspection process.

Instrument Selection

The instruments used to perform the inspection were the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. The instrument was manufactured by SciAps; serial #04174 DOM202510. The required Performance Characteristic Sheet (PCS) is attached to this Report.

The controlled depth of each reading associated with a discrete surface or component is configured into calibration to limit the influence of lead pipes or other objects located below the designated test location, such as within a wall.

Instrument Calibration

Three calibration checks each are taken using a National Institute of Standards and Testing (NIST) 0.8 to 1.02 mg/cm² standard using a manufacturer's calibration block consisting of a specialty steel plate. Additional NIST calibration is completed with a wood block, also furnished by the manufacturer. Through iteration, the instrument checks and double-checks itself with pass/fail determinations. These checks are taken at the beginning of each day (or job), and at the end of each day (or job). Calibrations are performed more frequently if the equipment provides a calibration alert. The XRF instrument was operating within the PCS specifications during this inspection. Documentation of calibration checks can be found throughout this report.

Substrate Correction

The inspection measurements are taken in the "PCS Mode." In the "PCS Mode," the analyzer seeks the shortest period of time to assure a definitive measurement with a 95% confidence. The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer concludes a measurement once this level of confidence is achieved, typically between 2 and 4 seconds depending on the regulatory level, which is set in the machine before the inspection begins. The PCS indicates that no substrate correction is required when the instrument is operated in the PCS mode.

Interference

The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer is not affected by spectral interference. It works well on curved surfaces, but flat surfaces were tested whenever possible. All measurements were reported on the raw data forms and are provided as the detailed XRF data within this report.

XRF Measurement Requirements

The building was considered, in the judgement of the Lead Inspector, to be several distinct rooms within one building. Each floor was distinctly separate, and areas of the first floor were divided into work areas as designated on figures and data forms provided.

Inconclusive XRF Results

According to the PCS, Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer does not have an inconclusive range on any of the six discussed substrates (brick, concrete, drywall, metal, plaster, and wood). However, the manufacturer of this device (SciAps) indicates any reading that is at the threshold for lead (1.0 mg/cm²) with or without 95% confidence level due to thin layering or other condition will register as positive for LBP.

Quality Control Measurements and Samples

For XRF measurements, a minimum of 1% of the shots were repeated for quality control purposes. The repeat shots provide a measure of the precision of the XRF instrument. All repeated readings were within statistical limits of 95% probability of the original shot.

Document Review

Limited documentation review was conducted in advance of this LBP inspection. Plan drawings depicting the footprint of each floor were developed based on available documentation, site observations, and interpolation. Inspectors defined sample locations (homogeneous areas) on a floor by floor basis, and to reference areas testing positive for LBP. In the absence of detailed construction history, EnviroNET inspectors combined components of similar construction and painting histories together into homogeneous structures.

Documentation

XRF Scope Sheets were developed during the inspection to indicate the date of the inspection, name of inspector, the structure/unit/room name, sample location, and numerical XRF results of each testing combination. Copies of these sheets are located in the Inspector's file.

The results of the inspection are provided in format compliant with HUD Guidelines, Chapter 7, and this report contains information about testing location, testing combination, paint condition, result levels, and XRF operation mode.

Consistent with requirements, each report or structure has its own unique job number. The job number is a time stamp of when that particular job was started, and which XRF instrument was used to perform the inspection. For this building, the job corresponds to the inspector and the rooms she/he inspected. Two (2) inspectors completed the field work utilizing one (1) XRF as defined above.

X-RAY FLUORESCENCE ANALYZER (XRF) OUTPUT REPORTS

After field assessment is completed, a series of reports are generated to include required information including results of the inspection. The reports are attached in a modified format to impart the significance and locations of areas containing LBP for this specific inspection. The attached reports are as follows:

Photographs

Selected photographs are provided to clarify findings for the reader. Refer to Appendix A.

Summary XRF Report

This report indicates all XRF results at or above the regulatory level, as pre-set by the manufacturer. The regulatory level was pre-set at 1.0 mg/cm². The XRF Summary Report providing locations and results of locations testing positive for LBP is attached as Appendix B.

Detailed XRF Report

The Detailed Report lists every reading taken in each room equivalent inspected. This report is generated and provided as Appendix C.

Figures

Figures are not provided, as they are not particularly instructive or helpful in understanding the results. Very few areas tested positive for LBP, therefore, figures are not provided.

Licenses of the Inspectors

Attached find the current licenses for both inspectors on this project. Refer to Appendices D & E.

PCS from Manufacturer

Attached find the PCS for the instrumentation used for XRF inspection and assessment. Refer to Appendix F.

Definitions

“Room Equivalent” as defined in HUD Chapter 7, may be a living room, a kitchen, a hallway, a bathroom, a stairway, etc. A closet is considered to be “Part” of a room, not a separate room equivalent. For this assessment, each addition or section of each addition to the structure was evaluated as a room.

“Component” is a structure such as a window casing, a door, or a wall etc. that is within a Room Equivalent. A window system, consists of two components; the window sill and the window apron. Each of these two components must be tested separately if they are present. The “Door System” consists for the components of the “Door Panel”, and the “Door Casing/Jamb System”. The door casing system consists of the door casing, header, and door jamb. The door panel and the door casing/jamb system must be tested separately.

“Substrate” is the material upon which the paint or other coating is applied to. There are six basic substrates. They are Brick, Concrete, Drywall, Metal, Plaster, and Wood.

“Testing Combination” is composed of a Room Equivalent, a Component, and a Substrate. Color is no longer considered part of a testing combination under HUD 1997 Revised Guidelines. However, where color may have been considered by the inspector to be of concern, that testing combination was tested.

Only one of each testing combination within a room equivalent (area) was required to be tested. However, at least one test is required on each wall within each room equivalent. All testing

combinations within each room equivalent were tested. All four walls within each room equivalent were tested (except as otherwise discussed earlier in this report).

Spatial Orientation

Each wall within a room equivalent is labeled “A”, “B”, “C”, or “D” in the reports and on the room diagrams. Throughout this Inspection and Inspection Reports, the A wall is always facing to the South side of the Building. Walls B, C, and D continue around the particular room in a clockwise motion. In this report, In this report Wall A is to the East; Wall B is to the South, Wall C is to the West, and Wall D is to the North.

FINDINGS

A total of 147 XRF readings were taken throughout the structure for Lead Based Paint in and around the Building. The Inspector took an additional 4 readings while calibrating their XRF.

Table I summarizes the generic components in the particular building, or addition, that were identified with lead at or above the regulatory level for lead. A detailed list of components that tested positive for lead in specific rooms can be found in the **Summary XRF Report** (Appendix B) of this report. All readings, regardless of result, can be found in the **Detailed XRF Report** (Appendix C) of the report.

TABLE I
GENERAL LBP COMPONENTS

LOCATION/ROOM	COMPONENT	SUBSTRATE	ROUGH QUANTITIES
2 nd -floor exterior walls	Concrete windowsill, architectural arches above windows Soffits (presumed)	Concrete & wood	7 such windows present, total <8000 ft ²

SUMMARY DISCUSSION

Painted Concrete sills and architectural arches on the upper level (grey) tested positive as LBP.

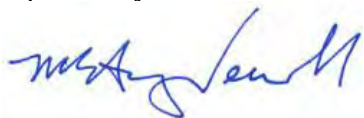
Recommendations for hazard abatement in these areas include removal or restoration of the windows and associated components.

We understand other options for interim controls and hazard abatement are available, and we are available to discuss.

CERTIFICATION

The inspection was conducted by experienced lead paint inspector/risk assessors licensed as such by the state of Iowa. The work performed complies with HUD guidance and sampling protocols, state, local and other specified regulatory requirements.

Inspected by:



Molly Arp Newell
IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

February 13, 2026

Date

Assisted by:



Ben D. Beydler, Ph.D.
IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

February 13, 2026

Date

Appendices:

- A Photos
- B Summary XRF Report
- C Detailed XRF Report
- D Iowa License Newell
- E Iowa License Beydler
- F PCS for XRF Analyzer



EnviroNET, Inc.
BP Report 1110 6th St., Nevada, IA
February 2026

APPENDICES



EnviroNET, Inc.
BP Report 1110 6th St., Nevada, IA
February 2026

APPENDIX A

PHOTOGRAPHS



View of subject property, looking west. First floor occupied by Kockler Financial, 2nd floor apartments. Upper level windows, arches **positive for LBP**. Soffit is presumed **positive**.



View of 2nd level windowsill which tested **positive for LBP**.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX B

XRF Summary Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:28	142	1.1	Positive	532K accessed via 1038 Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 526
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrn Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No distructive sampling behind wood panels.
 Original painted concrete architectural embellishments should be considered positive.
 Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX C

Detailed XRF Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:57	130	0	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Consignment Shop
1/13/2026 10:00	131	0.1	Negative	Bldg# 1038/1032	Wall	Wood	A	White	Intact	1	Façade	Storefront - Display area
1/13/2026 10:01	132	0	Negative	Bldg# 1038 Interior	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	133	0.1	Negative	Bldg# 1038	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	134	0	Negative	Bldg# 1038/1032	Wall Shelf	Wood	A	Off-White	Intact	1	Façade	Interior Storefront
1/13/2026 10:05	135	0.1	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	137	0.1	Negative	Bldg# 1038/ 1032	Wall	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:17	139	0.9	Negative	Bldg# 1038/1032	Ceiling	Plaster	A	White	Fair	1	Façade	Ceiling cornice mouldings
1/13/2026 10:17	140	0.1	Negative	Bldg# 1038/1032	Ceiling	Metal	A	White	Intact	1	Façade	Ceiling tin
1/13/2026 10:27	141	0.8	Negative	1038/ 532 K Interior	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
				532K accessed via 1038								
1/13/2026 10:28	142	1.1	Positive	Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:38	143	0.1	Negative	1038 Interior	wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:38	144	0	Negative	1038	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 10:47	146	0	Negative	1038	Wall	Plaster	A	Mauve	Intact	1	Façade	above ceiling tiles
1/13/2026 10:50	147	0	Negative	1038 & 1032	wall	Ext. Panels	A	Mauve	Intact	1	Façade	Exterior
1/13/2026 10:52	148	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	Exterior
1/13/2026 10:53	149	0	Negative	1028 Ext	Window Casing	Wood	A	Black	Intact	1	Façade	Ext. Façade 1028
1/13/2026 10:55	150	0	Negative	1028 Ext	Door	Metal	A	White	Intact	1	Façade	
1/13/2026 10:56	151	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:56	152	0	Negative	1028 Ext	Door Casing	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:57	153	0	Negative	1028 Ext	Door	Wood	A	Black	Intact	1	Façade	Interior 1028
1/13/2026 10:59	154	0	Negative	1028 Ext	Wall	Wood	A	White	Intact	1	Façade	Interior 1028
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 526
1/13/2026 11:13	161	0.1	Negative	526	Door	Metal	A	Brown	Intact	1	Bldg Façade	at entrance
1/13/2026 11:14	162	0.1	Negative	526	Door Casing	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:15	163	0	Negative	526	Door Threshold	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:21	164	0.3	Negative	526 (K-St Wall)	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:24	165	0.6	Negative	526	Wall	Plaster	A		Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:26	167	0.1	Negative	526	Window Casing	Wood	A	Clear	Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:28	168	0.2	Negative	526	Window Frame	Wood	A		Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:31	169	0.2	Negative	532 (K-St Wall)	Wall	Plaster	A	Green	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:33	170	0.2	Negative	532	Ceiling	Plaster	A	Yellow	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:38	171	0.6	Negative	532	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:39	172	0.1	Negative	532	Window Casing	Wood	A	Clear	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:40	173	0.1	Negative	532	Wall chair rail	Wood	A		Deteriorated	2	Bldg Façade	Upstairs 532



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:46	176	0.2	Negative	1038	Window Casing	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:47	177	0	Negative	1038	Wall	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:52	180	0.2	Negative	1038	Ceiling	Plaster	A	off white	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:53	181	0.2	Negative	1038	Wall chair rail	Wood	A	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 12:08	184	0	Negative	1032	East Wall (6th Ave)	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:09	185	0.2	Negative	1032	Window Casing	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:10	186	0.1	Negative	1032	Window sash	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:11	187	0	Negative	1032	Wall	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:12	188	0	Negative	1032	Ceiling	Plaster	A	White	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:20	189	0	Negative	1028 Ext lower level	Shake & Energy Bar	Wood trim	A	Black	Deteriorated	1	Bldg Facade	first floor 1028
1/13/2026 12:20	190	0	Negative	1028 Int	Wall	Wood	A	Black	Intact	1	Bldg Facade	coffee shop
1/13/2026 12:22	191	0	Negative	1028 Int	Window	Wood	A	Black	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:23	192	0	Negative	1028 Int	Door Casing	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:24	193	0	Negative	1028 Int	Door	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:54	194	0	Negative	1110 Ext	Wall	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	195	0	Negative	1110 Int.	Window	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	196	0	Negative	1110 Int.	Window casing	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:57	197	0	Negative	1110 Int.	Floor trim	wood	A	White	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 13:17	198	0	Negative	1110 Int. Kitchen	Window Sill	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:17	199	0	Negative	1110 Int.	Window	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:18	200	0	Negative	1110 Int.	wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	201	0	Negative	1110 Int. Bdrm	Wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	202	0	Negative	1110 Int.	Window well	Wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:25	203	0	Negative	1110 Int.	Wall above drop ceiling	Concrete	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrm Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 13:41	209	0	Negative	1104 Back Hallway	Door Trim	Metal	A		Intact	1	Bldg Facade	bottom of stairs
1/13/2026 13:46	210	0	Negative	moving towards Turret	Wall	Drywall	A	Gray	Intact	1	Bldg Facade	
1/13/2026 13:48	211	0	Negative	1104 South 1/2	Wall	Drywall	A	white	Intact	1	Bldg Facade	
1/13/2026 13:49	212	0	Negative	1104 South 1/2	Window Casing	Wood	A	White	Intact	1	Bldg Facade	
1/13/2026 14:13	213	0	Negative	1104 Exterior	Ext. K St. Wall	Wood	D	White	Intact	1	Bldg Facade	
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	215	0.1	Negative	1104 Exterior	Corner column	concrete	D	Red	Intact	1	Bldg Facade	
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:17	217	0	Negative	1104 Exterior	Ext Window casing Trim	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:17	218	0	Negative	1104 Exterior	Ext 6th St. window	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:22	219	0.1	Negative	1104 Ext Upper floor	Ext. K St. Wall	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	222	0.1	Negative	1104 Ext Upper floor	Ext K St. Wall paint	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:52	231	0.1	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:52	232	0.5	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:53	233	0	Negative	1028 Ext	Wall on Wood	Wood	A	Off-White	fair	2	Bldg Facade	Exterior 1028
1/13/2026 14:54	234	2.3	Positive	1028 Ext	window frame arch	Brick	A	White over red	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	236	0	Negative	1028 Ext	board between shutters	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:06	238	0.1	Negative	1032 Ext 6th St	Wall	Brick	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:06	239	0.9	Negative	1032 Ext 6th St	Wall arch over window	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:08	242	0	Negative	1032 Ext 6th St	Wall	Brick	A	above the awr	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	243	0.8	Negative	1032 Ext 6th St	Architectural arch	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:16	245	0	Negative	1038 Ext 6th St.	Shutter	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 15:16	246	0	Negative	1038 Ext 6th St.	Panel board between shutters	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:26	248	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:29	252	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A	white	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:30	253	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	254	0	Negative	1104 Ext 2nd Fl	wall panel embellishment	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	255	0	Negative	1104 Ext 2nd Fl	structural column	brick	A	white- protudin	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:33	256	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:37	257	0	Negative	1110 Ext 2nd Fl	wall	wood	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	258	0.8	Negative	1110 Ext 2nd Fl	wall	Brick	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	259	0.4	Negative	1110 Ext 2nd Fl	wall	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:39	261	0	Negative	1110 Ext 2nd Fl	window casing	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:40	262	0.6	Negative	1110 Ext 2nd Fl	brick	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	263	0.5	Negative	1110 Ext 2nd Fl	window sash	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:47	265	0	Negative	1122 Ext 2nd Fl	wall	Brick	A	Red	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:49	267	0	Negative	1122 Ext 2nd Fl	lateral trim - sill lower level	concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:50	268	0	Negative	1122 Ext 2nd Fl	wood panel	wood	A	Yellow	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:56	271	0.9	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 15:56	272	0.7	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 16:00	273	0	Negative	1122 Int 2nd Fl	window well inset	wood	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:00	274	0	Negative	1122 Int 2nd Fl	window well inset	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	275	0	Negative	1122 Int 2nd Fl	wall	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	276	0	Negative	1122 Int 2nd Fl	wall	wood	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:09	277	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	278	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	279	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	280	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No destructive sampling behind wood panels.

Original painted concrete architectural embellishments should be considered positive.

Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX D

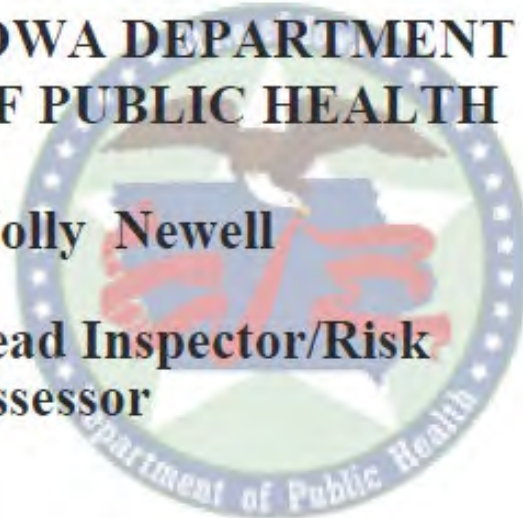
Inspector License



**IOWA DEPARTMENT
OF PUBLIC HEALTH**

Molly Newell

**Lead Inspector/Risk
Assessor**



Certification Number: LEAD-INSP10159

Expiration Date: March 10, 2027



IOWA

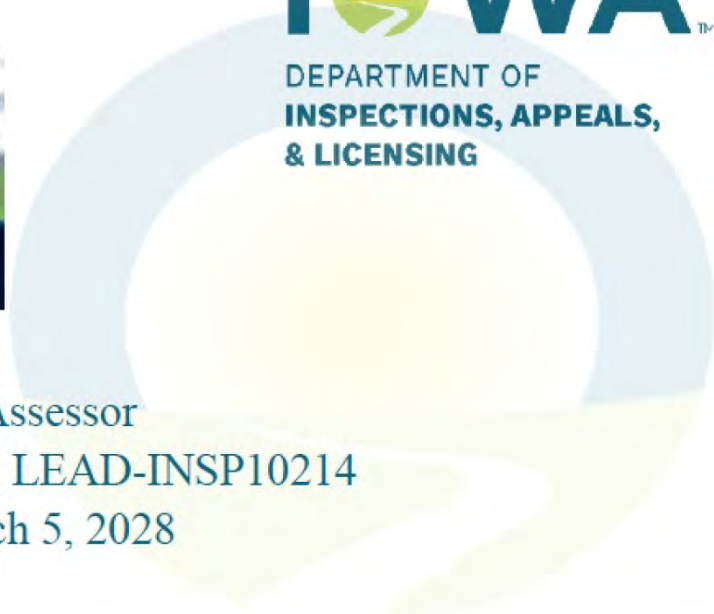
DEPARTMENT OF
**INSPECTIONS, APPEALS,
& LICENSING**

Ben Beydler

Lead Inspector/Risk Assessor

Certification Number: LEAD-INSP10214

Expiration Date: March 5, 2028





EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX E

XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2024

MANUFACTURER AND MODEL:

Make: **SciAps**

Models: **Model X-550**

X-Ray Source: **Tungsten (W) Anode**

serial#04174 DOM202510

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm²

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm² to use this PCS.

OPERATING PARAMETERS:

“Two-sigma stop” mode: variable-time reading

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) on NIST SRM 2579 (1.02 mg/cm²)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

W Anode (Two-sigma stop 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*, 2012 Edition ("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 December 2023, with two separate Tungsten-anode instruments, operated in two-sigma stop mode.

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; for NIST SRM 2579a, use film 2573 (1.04 mg/cm²)).

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.

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. In single-family and multifamily 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

The instrument did not report testing times.

CLASSIFICATION OF RESULTS:

XRF results for the W Anode in two-sigma stop mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm² and **negative** if they are **less than** 1.0 mg/cm².

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm² 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>. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

INSPECTION REPORT LEAD-BASED PAINT

1122 6th STREET, NEVADA, IA

DOWNTOWN FAÇADE IMPROVEMENT PLAN



Prepared For:
JORDAN COOK
CITY ADMINISTRATOR



Prepared By:
ENVIRONET, INC.
1225 East River Drive, Suite 101
Davenport, Iowa 52803-5752

Project # 250247_LBP CONTRACT # 25-DTR-004-011426
Report Date: February 2026

Signature:

A handwritten signature in blue ink, appearing to read 'Molly ARP Newell'.

MOLLY ARP NEWELL, PG, CHMM

IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

Signature:

A handwritten signature in black ink, appearing to read 'Ben Beydler'.

BEN D. BEYDLER, PH.D

IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

INTRODUCTION

This is a Lead-Based Paint (LBP) Inspection Report for the building located at 1122 6th Street, Nevada, IA is performed under contract with the City of Nevada, Iowa, to fulfill specific inspection obligations associated with economic development and façade restoration activities in Downtown Nevada.

The two-story building was observed to be constructed of brick with partial wood panel on exterior façade. Interiors exhibited storefront windows on 1st floor, and various interior finishes for first and 2nd floors.

The upper-level served as additional retail space and storage of donated materials.

Limitations:

The inspection was limited to exterior and interior painted, shellacked or varnished surfaces associated with the façades facing 6th Street. Exterior soils and interior dust were not included in the scope of work because 1) exterior soils subject to applicable rules and guidance were not identified around the building foundation and 2) dust wipe sampling was not applicable at time of inspection.

Destructive sampling was not undertaken based on the scope of work and the unknown timeline between date of inspection vs. date of façade improvement. Interior walls covered with wallboard, display shelves and merchandise (lower level) were not disturbed for testing purposes.

This inspection is not a comprehensive LBP Inspection as defined by the United States Department of Housing and Urban Development (HUD) based on limitations specified above. The structure does not currently meet the criteria of a regulated facility under IEPA or HUD regulations. Even so, HUD protocols are the industry standard and HUD protocols and inspection criteria were followed as discussed below in Governing protocols.

- identify locations and concentrations of regulated lead-based paint along with paint condition,
- protect workers during deconstruction and renovation,
- minimize the potential for lead dust to become airborne, and
- ensure appropriate management of lead waste.

Professional service guidance will be provided by EnviroNET to the City of Nevada upon request regarding contractor services to:

- control or eliminate lead-based paint hazards going forward,
- ensure work involving LBP is performed by certified and trained workers in accordance with EPA's Renovation, Repair and Painting (RRR) Rule
- provide residents with proper notices and disclosures about the presence and hazards of LBP as required under Subpart B of 24 CFR Part 35,
- perform clearance procedures after hazard control work, including proper testing by certified risk assessors and / or clearance technicians,

- Keep and submit records and records demonstrating compliance with the Lead Safe Housing Rule.

If portions of the facility with LBP are renovated for residential occupancy, reassessment for environmental closure of LBP remediation should be documented as well as issuance of lead-safe literature for occupants.

Scope of Work

Painted, varnished and shellacked surfaces on both floors of the facility were assessed on an area-by-area and surface by surface basis using an X-ray Fluorescence (XRF) instrument designed for this specialty purpose. Exterior elements of the exterior façade were inspected and assessed with the XRF meter. Field activities were conducted on January 13, 2026 by two qualified and licensed EnviroNET employees.

Observation determined current construction of 1122 6th Street comprises a rectangular shaped footprint.

This report documents compliance with contract obligations, including narrative and tabular presentation of findings with attachments including photographs depicting site conditions and findings, and detailed print out of analytical results as determined using X-ray Fluorescence technology, a Summary XRF report of areas and components testing positive for lead, figures depicting areas and components with regulated LBP, accreditation for the Inspectors performing the work, and the Performance Characteristic Sheet for the instrument used. Attachments are to be used in conjunction with the text of this Report and are not intended for use apart from the text.

GOVERNING PROTOCOLS

The protocol used for this inspection is based on the practices and procedures in the United States Department of Housing and Urban Development's (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Revision (HUD Guidelines) including the 1997 Chapter 7 revisions, and the United States Environmental Protection Agency's (USEPA) latest revisions to 40 CFR Part 745 (*Lead; Identification of Dangerous Levels of Lead; Final Rule; January 7, 2021*). USEPA updated minimum clearance levels for dust on horizontal surfaces; HUD established and updates protocols for Lead Based Paint Inspections.

The HUD Guidelines, USEPA 40 CFR Part 745, and state guidelines have agreed that the level of 1.0 mg/cm² defines regulated LBP. This inspection was conducted using this level as the criteria for defining positive vs. negative readings for LBP. Readings equal to or greater than 1.0 mg/cm² is considered by State and Federal law to be positive for LBP.

INSPECTION METHODOLOGY

X-Ray Fluorescence Analyzer (XRF) instrumentation was utilized to test painted surfaces. Suspect materials that were painted, varnished, shellacked, stained, or otherwise coated and within the area defined as the scope of work were inspected.

XRF Operational Requirements

The following requirements were followed for XRF testing performed during this inspection.

Safety Considerations

XRF instruments were only operated by individuals who have successfully completed the Manufacturer's Training requirements for the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. Care was taken not to expose occupants or workers to measurable amounts of radiation during the inspection process.

Instrument Selection

The instruments used to perform the inspection were the Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer. The instrument was manufactured by SciAps; serial #04174 DOM202510. The required Performance Characteristic Sheet (PCS) is attached to this Report.

The controlled depth of each reading associated with a discrete surface or component is configured into calibration to limit the influence of lead pipes or other objects located below the designated test location, such as within a wall.

Instrument Calibration

Three calibration checks each are taken using a National Institute of Standards and Testing (NIST) 0.8 to 1.02 mg/cm² standard using a manufacturer's calibration block consisting of a specialty steel plate. Additional NIST calibration is completed with a wood block, also furnished by the manufacturer. Through iteration, the instrument checks and double-checks itself with pass/fail determinations. These checks are taken at the beginning of each day (or job), and at the end of each day (or job). Calibrations are performed more frequently if the equipment provides a calibration alert. The XRF instrument was operating within the PCS specifications during this inspection. Documentation of calibration checks can be found throughout this report.

Substrate Correction

The inspection measurements are taken in the "PCS Mode." In the "PCS Mode," the analyzer seeks the shortest period of time to assure a definitive measurement with a 95% confidence. The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer concludes a measurement once this level of confidence is achieved, typically between 2 and 4 seconds depending on the regulatory level, which is set in the machine before the inspection begins. The PCS indicates that no substrate correction is required when the instrument is operated in the PCS mode.

Interference

The Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer is not affected by spectral interference. It works well on curved surfaces, but flat surfaces were tested whenever possible. All measurements were reported on the raw data forms and are provided as the detailed XRF data within this report.

XRF Measurement Requirements

The building was considered, in the judgement of the Lead Inspector, to be several distinct rooms within one building. Each floor was distinctly separate, and areas of the first floor were divided into work areas as designated on figures and data forms provided.

Inconclusive XRF Results

According to the PCS, Model X-550 Tungsten (W) Anode XRF Lead Paint Analyzer does not have an inconclusive range on any of the six discussed substrates (brick, concrete, drywall, metal, plaster, and wood). However, the manufacturer of this device (SciAps) indicates any reading that is at the threshold for lead (1.0 mg/cm^2) with or without 95% confidence level due to thin layering or other condition will register as positive for LBP.

Quality Control Measurements and Samples

For XRF measurements, a minimum of 1% of the shots were repeated for quality control purposes. The repeat shots provide a measure of the precision of the XRF instrument. All repeated readings were within statistical limits of 95% probability of the original shot.

Document Review

Limited documentation review was conducted in advance of this LBP inspection. Plan drawings depicting the footprint of each floor were developed based on available documentation, site observations, and interpolation. Inspectors defined sample locations (homogeneous areas) on a floor by floor basis, and to reference areas testing positive for LBP. In the absence of detailed construction history, EnviroNET inspectors combined components of similar construction and painting histories together into homogeneous structures.

Documentation

XRF Scope Sheets were developed during the inspection to indicate the date of the inspection, name of inspector, the structure/unit/room name, sample location, and numerical XRF results of each testing combination. Copies of these sheets are located in the Inspector's file.

The results of the inspection are provided in format compliant with HUD Guidelines, Chapter 7, and this report contains information about testing location, testing combination, paint condition, result levels, and XRF operation mode.

Consistent with requirements, each report or structure has its own unique job number. The job number is a time stamp of when that particular job was started, and which XRF instrument was used to perform the inspection. For this building, the job corresponds to the inspector and the rooms she/he inspected. Two (2) inspectors completed the field work utilizing one (1) XRF as defined above.

X-RAY FLUORESCENCE ANALYZER (XRF) OUTPUT REPORTS

After field assessment is completed, a series of reports are generated to include required information including results of the inspection. The reports are attached in a modified format to impart the significance and locations of areas containing LBP for this specific inspection. The attached reports are as follows:

Photographs

Selected photographs are provided to clarify findings for the reader. Refer to Appendix A.

Summary XRF Report

This report indicates all XRF results at or above the regulatory level, as pre-set by the manufacturer. The regulatory level was pre-set at 1.0 mg/cm². The XRF Summary Report providing locations and results of locations testing positive for LBP is attached as Appendix B.

Detailed XRF Report

The Detailed Report lists every reading taken in each room equivalent inspected. This report is generated and provided as Appendix C.

Figures

Figures are not provided, as they are not particularly instructive or helpful in understanding the results. Very few areas tested positive for LBP, therefore, figures are not provided.

Licenses of the Inspectors

Attached find the current licenses for both inspectors on this project. Refer to Appendices D & E.

PCS from Manufacturer

Attached find the PCS for the instrumentation used for XRF inspection and assessment. Refer to Appendix F.

Definitions

“Room Equivalent” as defined in HUD Chapter 7, may be a living room, a kitchen, a hallway, a bathroom, a stairway, etc. A closet is considered to be “Part” of a room, not a separate room equivalent. For this assessment, each addition or section of each addition to the structure was evaluated as a room.

“Component” is a structure such as a window casing, a door, or a wall etc. that is within a Room Equivalent. A window system, consists of two components; the window sill and the window apron. Each of these two components must be tested separately if they are present. The “Door System” consists for the components of the “Door Panel”, and the “Door Casing/Jamb System”. The door casing system consists of the door casing, header, and door jamb. The door panel and the door casing/jamb system must be tested separately.

“Substrate” is the material upon which the paint or other coating is applied to. There are six basic substrates. They are Brick, Concrete, Drywall, Metal, Plaster, and Wood.

“Testing Combination” is composed of a Room Equivalent, a Component, and a Substrate. Color is no longer considered part of a testing combination under HUD 1997 Revised Guidelines.

However, where color may have been considered by the inspector to be of concern, that testing combination was tested.

Only one of each testing combination within a room equivalent (area) was required to be tested. However, at least one test is required on each wall within each room equivalent. All testing combinations within each room equivalent were tested. All four walls within each room equivalent were tested (except as otherwise discussed earlier in this report).

Spatial Orientation

Each wall within a room equivalent is labeled “A”, “B”, “C”, or “D” in the reports and on the room diagrams. Throughout this Inspection and Inspection Reports, the A wall is always facing to the South side of the Building. Walls B, C, and D continue around the particular room in a clockwise motion. In this report, In this report Wall A is to the East; Wall B is to the South, Wall C is to the West, and Wall D is to the North.

FINDINGS

A total of 147 XRF readings were taken throughout the structure for Lead Based Paint in and around the Building. The Inspector took an additional 4 readings while calibrating their XRF.

Table I summarizes the generic components in the particular building, or addition, that were identified with lead at or above the regulatory level for lead. A detailed list of components that tested positive for lead in specific rooms can be found in the **Summary XRF Report** (Appendix B) of this report. All readings, regardless of result, can be found in the **Detailed XRF Report** (Appendix C) of the report.

TABLE I
GENERAL LBP COMPONENTS

LOCATION/ROOM	COMPONENT	SUBSTRATE	ROUGH QUANTITIES
1 st floor exterior wall	Brick	Brick	200 ft ²
2 nd -floor exterior walls	Concrete windowsill, architectural arches above windows	Concrete	3 such windows present, total <400 ft ²
Exterior wall	Soffit	Wood	50 LF



SUMMARY DISCUSSION

Painted Concrete sills and architectural arches on the upper level (white) tested positive as LBP. Red painted brick wall on the lower level was positive, upper level was not. Soffits along the roofline are assumed positive.

Recommendations for hazard abatement in these areas include removal or restoration of the windows and associated components.

We understand other options for interim controls and hazard abatement are available, and we are available to discuss.

CERTIFICATION

The inspection was conducted by experienced lead paint inspector/risk assessors licensed as such by the state of Iowa. The work performed complies with HUD guidance and sampling protocols, state, local and other specified regulatory requirements.

Inspected by:

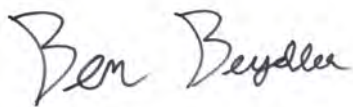


Molly Arp Newell
IOWA LBP Inspection License #10159
Certified Hazardous Material Manager
#05691

February 13, 2026

Date

Assisted by:



Ben D. Beydler, Ph.D.
IOWA LBP Inspection License #10214
EPA Lead Renovator License
#R-I-19733-24-000834

February 13, 2026

Date

Appendices:

- A Photos
- B Summary XRF Report
- C Detailed XRF Report
- D Iowa License Newell
- E Iowa License Beydler
- F PCS for XRF Analyzer



EnviroNET, Inc.
BP Report 1122 6th St., Nevada, IA
February 2026

APPENDICES



EnviroNET, Inc.
BP Report 1122 6th St., Nevada, IA
February 2026

APPENDIX A

PHOTOGRAPHS



View of subject property, looking west. Both levels occupied by Harmony Clothing. Upper level windowsill / soffit and arches positive for LBP.



View of painted brick on lower level testing positive for LBP.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX B

XRF Summary Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:28	142	1.1	Positive	532K accessed via 1038 Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Facade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Facade	Ext 526
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrn Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No distructive sampling behind wood panels.
 Original painted concrete architectural embellishments should be considered positive.
 Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX C

Detailed XRF Report



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 9:55	126	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	127	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	128	1.1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:55	129	1	Positive	Calibration		Metal	-	-	-	-	-	Calibration
1/13/2026 9:57	130	0	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Consignment Shop
1/13/2026 10:00	131	0.1	Negative	Bldg# 1038/1032	Wall	Wood	A	White	Intact	1	Façade	Storefront - Display area
1/13/2026 10:01	132	0	Negative	Bldg# 1038 Interior	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	133	0.1	Negative	Bldg# 1038	Wall Shelf	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:03	134	0	Negative	Bldg# 1038/1032	Wall Shelf	Wood	A	Off-White	Intact	1	Façade	Interior Storefront
1/13/2026 10:05	135	0.1	Negative	Bldg# 1038 Interior	Wall	Wood	A	White	Intact	1	Façade	Interior Storefront
1/13/2026 10:06	136	1.9	Positive	Bldg# 1038	Wall corner column	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	137	0.1	Negative	Bldg# 1038/ 1032	Wall	Plaster	A	White	Fair	1	Façade	Interior Storefront
1/13/2026 10:08	138	1.8	Positive	Bldg# 1038	Wall corner column	Plaster	D	White	Fair	1	Façade	Above drop ceiling Corner Plaster
1/13/2026 10:17	139	0.9	Negative	Bldg# 1038/1032	Ceiling	Plaster	A	White	Fair	1	Façade	Ceiling cornice mouldings
1/13/2026 10:17	140	0.1	Negative	Bldg# 1038/1032	Ceiling	Metal	A	White	Intact	1	Façade	Ceiling tin
1/13/2026 10:27	141	0.8	Negative	1038/ 532 K Interior	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
				532K accessed via 1038								
1/13/2026 10:28	142	1.1	Positive	Interior	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave 30 x 15' area
1/13/2026 10:38	143	0.1	Negative	1038 Interior	wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:38	144	0	Negative	1038	Wall	Plaster	D	cream color	Intact	1	Façade	Int. Wall along K Ave
1/13/2026 10:39	145	1.4	Positive	532K accessed via 1038	Wall	Plaster	D	White	Intact	1	Façade	Int. Wall along K Ave where 1038 meets 532: 30 x 15' area
1/13/2026 10:47	146	0	Negative	1038	Wall	Plaster	A	Mauve	Intact	1	Façade	above ceiling tiles
1/13/2026 10:50	147	0	Negative	1038 & 1032	wall	Ext. Panels	A	Mauve	Intact	1	Façade	Exterior
1/13/2026 10:52	148	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	Exterior
1/13/2026 10:53	149	0	Negative	1028 Ext	Window Casing	Wood	A	Black	Intact	1	Façade	Ext. Façade 1028
1/13/2026 10:55	150	0	Negative	1028 Ext	Door	Metal	A	White	Intact	1	Façade	
1/13/2026 10:56	151	0	Negative	1028 Ext	Wall	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:56	152	0	Negative	1028 Ext	Door Casing	Wood	A	Black	Intact	1	Façade	
1/13/2026 10:57	153	0	Negative	1028 Ext	Door	Wood	A	Black	Intact	1	Façade	Interior 1028
1/13/2026 10:59	154	0	Negative	1028 Ext	Wall	Wood	A	White	Intact	1	Façade	Interior 1028
1/13/2026 11:04	155	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	156	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	157	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:04	158	1.1	Positive	Calibration		Concrete	A	Off-White	deteriorated	1	Bldg Façade	
1/13/2026 11:08	159	5.4	Positive	532 (K-St Wall) Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 532
1/13/2026 11:10	160	6.7	Positive	526 Exterior	Support beam	Concrete	A	Off-White	deteriorated	1	Bldg Façade	Ext 526
1/13/2026 11:13	161	0.1	Negative	526	Door	Metal	A	Brown	Intact	1	Bldg Façade	at entrance
1/13/2026 11:14	162	0.1	Negative	526	Door Casing	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:15	163	0	Negative	526	Door Threshold	Metal	A		Intact	1	Bldg Façade	at entrance
1/13/2026 11:21	164	0.3	Negative	526 (K-St Wall)	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:24	165	0.6	Negative	526	Wall	Plaster	A		Deteriorated	2	Bldg Façade	Upstairs 526
1/13/2026 11:26	167	0.1	Negative	526	Window Casing	Wood	A	Clear	Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:28	168	0.2	Negative	526	Window Frame	Wood	A		Fair	2	Bldg Façade	Upstairs 526
1/13/2026 11:31	169	0.2	Negative	532 (K-St Wall)	Wall	Plaster	A	Green	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:33	170	0.2	Negative	532	Ceiling	Plaster	A	Yellow	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:38	171	0.6	Negative	532	Wall	Plaster	A	Off-White	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:39	172	0.1	Negative	532	Window Casing	Wood	A	Clear	Deteriorated	2	Bldg Façade	Upstairs 532
1/13/2026 11:40	173	0.1	Negative	532	Wall chair rail	Wood	A		Deteriorated	2	Bldg Façade	Upstairs 532



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 11:42	174	8.4	Positive	1038 (K St Wall)	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:44	175	6.9	Positive	1038	Wall	Plaster	C	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:46	176	0.2	Negative	1038	Window Casing	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:47	177	0	Negative	1038	Wall	Wood	C	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:50	178	9.1	Positive	1038 (6th St. Wall)	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:51	179	9.6	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:52	180	0.2	Negative	1038	Ceiling	Plaster	A	off white	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:53	181	0.2	Negative	1038	Wall chair rail	Wood	A	Clear	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:55	182	7.8	Positive	1038	Wall	Plaster	A	Blue	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 11:57	183	7.9	Positive	1038	Wall Support column	Concrete	A	Off-White	Deteriorated	2	Bldg Facade	Upstairs 1038
1/13/2026 12:08	184	0	Negative	1032	East Wall (6th Ave)	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:09	185	0.2	Negative	1032	Window Casing	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:10	186	0.1	Negative	1032	Window sash	Wood	A		Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:11	187	0	Negative	1032	Wall	Plaster	A	Yellow	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:12	188	0	Negative	1032	Ceiling	Plaster	A	White	Deteriorated	2	Bldg Facade	Upstairs 1032
1/13/2026 12:20	189	0	Negative	1028 Ext lower level	Shake & Energy Bar	Wood trim	A	Black	Deteriorated	1	Bldg Facade	first floor 1028
1/13/2026 12:20	190	0	Negative	1028 Int	Wall	Wood	A	Black	Intact	1	Bldg Facade	coffee shop
1/13/2026 12:22	191	0	Negative	1028 Int	Window	Wood	A	Black	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:23	192	0	Negative	1028 Int	Door Casing	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:24	193	0	Negative	1028 Int	Door	Metal	A	White	Intact	1	Bldg Facade	first floor 1028
1/13/2026 12:54	194	0	Negative	1110 Ext	Wall	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	195	0	Negative	1110 Int.	Window	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:56	196	0	Negative	1110 Int.	Window casing	wood	A	Grey	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 12:57	197	0	Negative	1110 Int.	Floor trim	wood	A	White	Intact	1	Bldg Facade	1110 1st fl Accounting
1/13/2026 13:17	198	0	Negative	1110 Int. Kitchen	Window Sill	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:17	199	0	Negative	1110 Int.	Window	wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:18	200	0	Negative	1110 Int.	wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	201	0	Negative	1110 Int. Bdrm	Wall	Plaster	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:19	202	0	Negative	1110 Int.	Window well	Wood	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:25	203	0	Negative	1110 Int.	Wall above drop ceiling	Concrete	A	White	Intact	2	Bldg Facade	Dennis in Apt #2
1/13/2026 13:33	204	4.3	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:35	205	4	Positive	1104 Interior	Window Casing	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:37	206	3.7	Positive	1104 Interior	Window Trim	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:38	207	4.2	Positive	1104 Interior	Window Sill	Wood	A	White	Intact	2	Bldg Facade	Air B&B
1/13/2026 13:39	208	4.5	Positive	1104 Interior	Bdrm Window	Wood	A	White	Intact	2	Bldg Facade	Air B&B



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 13:41	209	0	Negative	1104 Back Hallway	Door Trim	Metal	A		Intact	1	Bldg Facade	bottom of stairs
1/13/2026 13:46	210	0	Negative	moving towards Turret	Wall	Drywall	A	Gray	Intact	1	Bldg Facade	
1/13/2026 13:48	211	0	Negative	1104 South 1/2	Wall	Drywall	A	white	Intact	1	Bldg Facade	
1/13/2026 13:49	212	0	Negative	1104 South 1/2	Window Casing	Wood	A	White	Intact	1	Bldg Facade	
1/13/2026 14:13	213	0	Negative	1104 Exterior	Ext. K St. Wall	Wood	D	White	Intact	1	Bldg Facade	
1/13/2026 14:15	214	2.5	Positive	1104 Exterior	Ext K St. Wall	Concrete	D	White	Intact	1	Bldg Facade	Exterior paint at sidewalk elevation
1/13/2026 14:16	215	0.1	Negative	1104 Exterior	Corner column	concrete	D	Red	Intact	1	Bldg Facade	
1/13/2026 14:16	216	1.6	Positive	1104 Exterior	Ext K St. Wall	Brick	D	Red	Intact	1	Bldg Facade	Exterior paint on brick 1st floor level
1/13/2026 14:17	217	0	Negative	1104 Exterior	Ext Window casing Trim	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:17	218	0	Negative	1104 Exterior	Ext 6th St. window	Wood	D	White	Intact	1	Bldg Facade	Exterior 1104
1/13/2026 14:22	219	0.1	Negative	1104 Ext Upper floor	Ext. K St. Wall	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	220	8.1	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	White stripe	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:23	221	2	Positive	1104 Ext Upper floor	Ext. K St. Wall	Concrete	D	window sill	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	222	0.1	Negative	1104 Ext Upper floor	Ext K St. Wall paint	Brick	D	Red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:25	223	7.4	Positive	1104 Ext Upper floor	Window Arch trim	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	224	2.5	Positive	1104 Ext Upper floor	Architectural accent	Concrete	D	White	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 14:26	225	4.1	Positive	1104 Ext Upper floor	Turrit	Orig wood	D	White	fair	2	Bldg Facade	Architectural accents HOT
1/13/2026 14:29	226	5.7	Positive	1104 Ext Upper floor	Turrit	Concrete	D	White	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:29	227	1	Positive	1104 Ext Upper floor	Turrit	wood pane	D	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 14:36	228	1.5	Positive	1038 K St Side 2nd Floor	Ext. Window sash	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	229	6.2	Positive	1038 K St Side 2nd Floor	Window	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:37	230	5.4	Positive	1038 K St Side 2nd Floor	Window Casing	wood	D	White	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 14:52	231	0.1	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:52	232	0.5	Negative	1028 Exterior	Wall	Brick	A	Tan	Intact	2	Bldg Facade	Exterior 1028
1/13/2026 14:53	233	0	Negative	1028 Ext	Wall on Wood	Wood	A	Off-White	fair	2	Bldg Facade	Exterior 1028
1/13/2026 14:54	234	2.3	Positive	1028 Ext	window frame arch	Brick	A	White over red	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	235	3.3	Positive	1028 Ext	rounded frame near shutter	Concrete	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:55	236	0	Negative	1028 Ext	board between shutters	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1028
1/13/2026 14:56	237	2.3	Positive	1028 Ext	arch to left of "1881"	Concrete	A	white	fair	2	Bldg Facade	Exterior 1028
1/13/2026 15:06	238	0.1	Negative	1032 Ext 6th St	Wall	Brick	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:06	239	0.9	Negative	1032 Ext 6th St	Wall arch over window	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	240	1.1	Positive	1032 Ext 6th St	Wall arch over window	Concrete	A	orange	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:07	241	1.5	Positive	1032 Ext 6th St	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:08	242	0	Negative	1032 Ext 6th St	Wall	Brick	A	above the awr	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	243	0.8	Negative	1032 Ext 6th St	Architectural arch	cement	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:09	244	1.2	Positive	1032 Ext 6th St	Architectural arch	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1032
1/13/2026 15:16	245	0	Negative	1038 Ext 6th St.	Shutter	wood	A	white	Deteriorated	2	Bldg Facade	Exterior 1038
1/13/2026 15:16	246	0	Negative	1038 Ext 6th St.	Panel board between shutters	wood	A	white	Intact	2	Bldg Facade	Exterior 1038
1/13/2026 15:17	247	5.3	Positive	1038 Ext 6th St.	Window Frame	wood	A	white	Intact	2	Bldg Facade	Exterior 1038



Date	Test #	Pb	Pb P/F	Job Number 250247	Components	Substrate	Side	Color	Condition	Floor	Room	Site
1/13/2026 15:26	248	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:26	249	9.4	Positive	1104 Ext 2nd Fl	wall stripe	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	250	4.6	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:28	251	5	Positive	1104 Ext 2nd Fl	Window Arch trim	Concrete	A	white	fair	2	Bldg Facade	Exterior 1104
1/13/2026 15:29	252	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A	white	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:30	253	0	Negative	1104 Ext 2nd Fl	wall panel	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	254	0	Negative	1104 Ext 2nd Fl	wall panel embellishment	wood	A		Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:31	255	0	Negative	1104 Ext 2nd Fl	structural column	brick	A	white- protudin	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:33	256	0.2	Negative	1104 Ext 2nd Fl	wall	Brick	A	red	Intact	2	Bldg Facade	Exterior 1104
1/13/2026 15:37	257	0	Negative	1110 Ext 2nd Fl	wall	wood	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	258	0.8	Negative	1110 Ext 2nd Fl	wall	Brick	A	grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	259	0.4	Negative	1110 Ext 2nd Fl	wall	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:38	260	1.7	Positive	1110 Ext 2nd Fl	window sill	Concrete	A	Grey	Deteriorated	1	Bldg Facade	Exterior 1110
1/13/2026 15:39	261	0	Negative	1110 Ext 2nd Fl	window casing	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:40	262	0.6	Negative	1110 Ext 2nd Fl	brick	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	263	0.5	Negative	1110 Ext 2nd Fl	window sash	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:41	264	1.3	Positive	1110 Ext 2nd Fl	Architectural element	Brick	A	Grey	Intact	1	Bldg Facade	Exterior 1110
1/13/2026 15:47	265	0	Negative	1122 Ext 2nd Fl	wall	Brick	A	Red	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:48	266	2.9	Positive	1122 Ext 2nd Fl	lateral trim - sill Upper	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:49	267	0	Negative	1122 Ext 2nd Fl	lateral trim - sill lower level	concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:50	268	0	Negative	1122 Ext 2nd Fl	wood panel	wood	A	Yellow	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:51	269	2.4	Positive	1122 Ext 2nd Fl	Arch over window	Concrete	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:54	270	1.3	Positive	1122 Ext 2nd Fl	Arch over window // soffit	Concrete	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 15:56	271	0.9	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 15:56	272	0.7	Negative	1122 Int. 1st Fl	wall	plaster	A	white	intact	1	Bldg Facade	Exterior 1122
1/13/2026 16:00	273	0	Negative	1122 Int 2nd Fl	window well inset	wood	A	white	Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:00	274	0	Negative	1122 Int 2nd Fl	window well inset	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	275	0	Negative	1122 Int 2nd Fl	wall	wood	A		intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:01	276	0	Negative	1122 Int 2nd Fl	wall	wood	A		Intact	2	Bldg Facade	Exterior 1122
1/13/2026 16:09	277	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	278	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	279	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:09	280	1.1	Positive	Calibration								Exterior Calibration
1/13/2026 16:18	281	2.8	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122
1/13/2026 16:18	282	3.4	Positive	1122 Ext 1st Fl	wall flanking store front	brick	A	red	deteriorated	1	ext Red brick low	Exterior 1122

No destructive sampling behind wood panels.

Original painted concrete architectural embellishments should be considered positive.

Painted brick on lower level is hot where tested.



EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX D

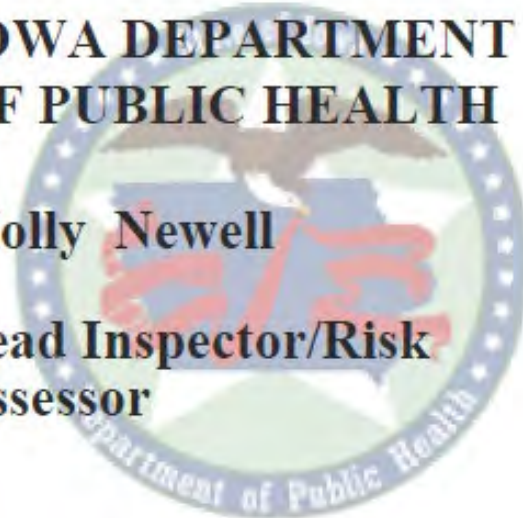
Inspector License



**IOWA DEPARTMENT
OF PUBLIC HEALTH**

Molly Newell

**Lead Inspector/Risk
Assessor**



Certification Number: LEAD-INSP10159

Expiration Date: March 10, 2027



IOWA

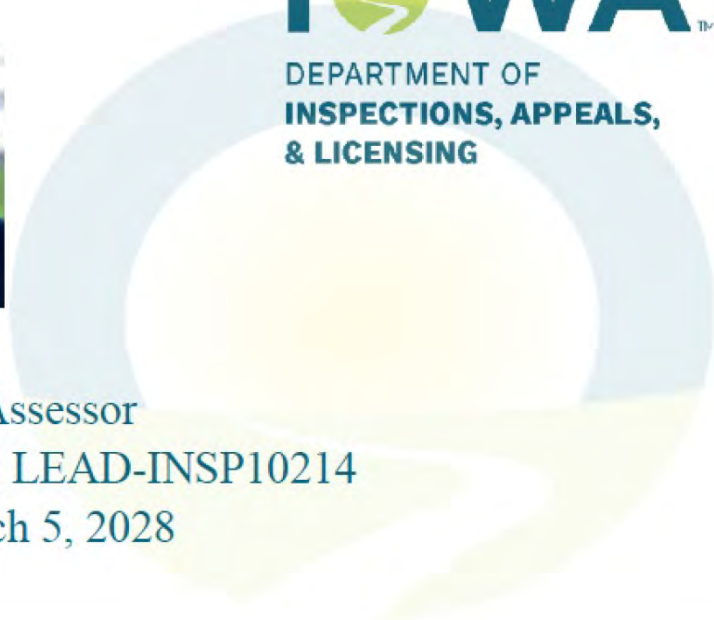
DEPARTMENT OF
**INSPECTIONS, APPEALS,
& LICENSING**

Ben Beydler

Lead Inspector/Risk Assessor

Certification Number: LEAD-INSP10214

Expiration Date: March 5, 2028





EnviroNET, Inc.
BP Report 1038 6th St., Nevada, IA
February 2026

APPENDIX E

XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2024

MANUFACTURER AND MODEL:

Make: *SciAps*

Models: *Model X-550*

X-Ray Source: *Tungsten (W) Anode*

serial#04174 DOM202510

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm²

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm² to use this PCS.

OPERATING PARAMETERS:

“Two-sigma stop” mode: variable-time reading

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) on NIST SRM 2579 (1.02 mg/cm²)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

W Anode (Two-sigma stop 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*, 2012 Edition ("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 December 2023, with two separate Tungsten-anode instruments, operated in two-sigma stop mode.

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; for NIST SRM 2579a, use film 2573 (1.04 mg/cm²)).

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.

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. In single-family and multifamily 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

The instrument did not report testing times.

CLASSIFICATION OF RESULTS:

XRF results for the W Anode in two-sigma stop mode are classified as **positive** if they are **greater than or equal** to 1.0 mg/cm² and **negative** if they are **less than** 1.0 mg/cm².

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm² 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>. The methodology was subsequently generalized by QuanTech for application to other Action Levels.