

PROJECT MANUAL

PROJECT NAME:

WRC Decentralization Phase 4 & Fire Alarm Phase 3 Bid Issuance #1

PROJECT ADDRESS:

1251 334th Street
Woodward, Iowa 50276

PROJECT DATE: March 14, 2025

OWNER:

Iowa Department of Administrative Services
109 Southeast 13th Street
Des Moines, Iowa 50319



OWNER PROJECT NUMBER: 9279.40

OWNER REQUEST FOR BID NUMBER: RFB 927940-01

CONSTRUCTION MANAGER:

Story Construction
2810 Wakefield Circle
Ames, Iowa 50010



CONSTRUCTION MANAGER PROJECT NUMBER: 24501

ARCHITECT:

Shive-Hattery
4125 Westown Parkway Suite 100
West Des Moines, Iowa, 50266




ARCHITECT PROJECT NUMBER: 2240007040


**THIS PAGE
INTENTIONALLY
LEFT BLANK**


SECTION 00 0105

CERTIFICATIONS PAGE

STATE OF IOWA

	<p>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.</p> <p>Printed or typed name: Cameron L. Manley</p> <p><i>Cameron L. Manley</i> _____ <u>03/20/2025</u></p> <p>Signature Date</p> <p>License Expires: 6-30-2025</p> <p>Pages, Sheets, or Divisions covered by this Seal: Divisions 02, 03, 04, 05, 06, 07, 08, and 09</p>
---	---

	<p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p> <p><i>John Baumhover</i> _____ <u>03/20/2025</u></p> <p>Signature Date</p> <p>Printed or typed name: John Baumhover</p> <p>License Number: 25737</p> <p>My license renewal date is: 12-31-2026</p> <p>Pages, Sheets, or Divisions covered by this Seal: Divisions 21, 22, and 23</p>
--	--

	<p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p> <p><i>Kevin Bruxvoort</i> _____ <u>03/20/2025</u></p> <p>Signature Date</p> <p>Printed or typed name: Kevin J. Bruxvoort</p> <p>License Number: 19927</p> <p>My license renewal date is: 12-31-2025</p> <p>Pages, Sheets, or Divisions covered by this Seal: Divisions 26, 27, and 28</p>
---	---

WRC Birches, Powerhouse, Elmcrest, & Med Center Decentralization P4 & Fire Alarm P3
IDAS Project # 9279.40
SH Project # 2240007040

END OF SECTION

SECTION 00 0110

TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING REQUIREMENTS

1.01 DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

A.	00 0101	Project Title Page
B.	00 0107	Seals Page
C.	00 0110	Table of Contents
D.	00 0115	List of Drawing Sheets
E.	00 0116	Bid Submittal Checklist
F.	00 1113	Notice to Bidders
G.	00 2113	Instructions to Bidders
H.	00 2113.01	IMPACS Electronic Procurement System Instructions
I.	00 2113.02	Sample Contractor Certificate of Insurance
J.	00 3113	Preliminary Schedule
K.	00 3126	Existing Hazardous Material Information
L.	00 3143	Permit Application
M.	00 4116	Bid Form
N.	00 4116.01	Non Discrimination Clause Information
O.	00 4116.02	Targeted Small Business Information
P.	00 4313	Bid Security Forms
Q.	00 5200	Agreement Form
R.	00 6000	Payment Bond and Performance Bond Forms

SPECIFICATIONS

1.02 DIVISION 01 – GENERAL REQUIREMENTS

A.	01 1200	Contract Summary
B.	01 2500	Substitution Procedures (<i>Form Provided by Architect</i>)
C.	01 2600	Contract Modification Procedures
D.	01 2900	Payment Procedures
E.	01 3100	Project Management and Coordination
F.	01 3100.01	Web Based Construction Management
G.	01 3200	Construction Progress Documentation
H.	01 3300	Submittal Procedures
I.	01 4000	Quality Requirements
J.	01 5000	Temporary Facilities and Controls
K.	01 6000	Product Requirements
L.	01 7300	Execution
M.	01 7700	Closeout Procedures
N.	01 9000	Atlas – Asbestos Abatement Specification

1.01 Division 02 – EXISTING CONDITIONS

A.	02 41 00	Demolition
----	----------	------------

1.02	Division 03 – CONCRETE	
A.	03 30 30	Cast-In-Place Concrete
1.03	Division 04 – MASONRY	
A.	04 20 00	Unit Masonry
1.04	Division 5 – METALS	
A.	05 75 00	Metal Convector Cabinet Covers
1.05	Division 6 – WOODS, PLASTICS, AND COMPOSITES	
A.	06 10 00	Rough Carpentry
1.06	Division 7 – THERMAL AND MOISTURE PROTECTION	
A.	07 42 43	Metal Window Panels
B.	07 81 00	Applied Fire Protection
C.	07 84 00	Fire Stopping
D.	07 90 00	Joint Sealants
1.07	Division 8 – OPENINGS	
A.	08 11 13	Hollow Metal Doors and Frames
B.	08 71 00	Door Hardware
1.08	Division 9 – FINISHES	
A.	09 21 16	Gypsum Board Assemblies
B.	09 91 23	Interior Painting
1.09	Division 21 – Fire Suppression	
A.	21 11 00	Facility Fire-Suppression Water-Service Piping
B.	21 13 00	Fire-Suppression Sprinkler Systems
1.010	Division 22 – PLUMBING	
A.	22 05 00	Common Work Results for Plumbing
B.	22 05 19	Meters and Gauges for Plumbing Piping
C.	22 05 23	General Duty Valves for Plumbing Piping
D.	22 05 29	Hangers and Supports for Plumbing Piping and Equipment
E.	22 05 48	Vibration and Seismic Controls for Plumbing Piping and Equipment
F.	22 05 53	Identification for Plumbing Piping and Equipment
G.	22 07 00	Plumbing Insulation
H.	22 11 16	Domestic Water Piping
I.	22 11 19	Domestic Water Piping Specialties
J.	22 13 16	Sanitary Waste and Vent Piping
K.	22 13 19	Sanitary Waste Piping Specialties

1.011 Division 23 – HVAC

A.	23 05 00	Common Work Results for HVAC
B.	23 05 13	Common Motor Requirements for HVAC Equipment
C.	23 05 19	Meters and Gauges for HVAC Piping
D.	23 05 23	General Duty Valves for HVAC Piping
E.	23 05 29	Hangers and Supports for HVAC Piping and Equipment
F.	23 05 48	Vibration and Seismic Controls for Plumbing, HVAC Piping and Equipment
G.	23 05 53	Identification for HVAC Piping and Equipment
H.	23 05 93	Testing, Adjusting, and Balancing for HVAC
I.	23 07 00	HVAC Insulation
J.	23 08 00	Mechanical Commissioning Requirements
K.	23 09 23	Direct Digital Control System for HVAC
L.	23 11 23	Facility Natural Gas Piping
M.	23 21 13	Hydronic Piping
N.	23 21 23	Hydronic Pumps
O.	23 23 00	Refrigerant Piping
P.	23 25 00	HVAC Water Treatment
Q.	23 31 13	Metal Ducts
R.	23 33 00	Air Duct Accessories
S.	23 37 00	Wall Louvers
T.	23 52 16	Fire-Tube Condensing Hot Water Boilers
U.	23 64 23	Scroll Water Chillers
V.	23 64 26	Rotary-Screw Water Chillers
W.	23 82 33	Convectors and Finned Tube Radiation
X.	23 82 39	Unit Heaters
Y.	23 82 40	Electric Unit Heaters

1.012 Division 26 – ELECTRICAL

A.	26 05 00	Common Work Results for Electrical
B.	26 05 05	Selective Demolition for Electrical
C.	26 05 13	Medium Voltage Cables
D.	26 05 19	Low Voltage Electrical Power Conductors and Cables
E.	26 05 26	Grounding and Bonding for Electrical Systems
F.	26 05 29	Hangers and Supports for Electrical Systems
G.	26 05 33.13	Conduit for Electrical Systems
H.	26 05 33.16	Boxes for Electrical Systems
I.	26 05 53	Identification for Electrical Systems
J.	26 09 23	Lighting Control Devices
K.	26 12 00	Medium Voltage Transformers
L.	26 24 16	Panelboards
M.	26 27 26	Wiring Devices
N.	26 28 13	Fuses
O.	26 28 16.16	Enclosed Switches
P.	26 29 23	Variable Frequency Motor Controllers
Q.	26 51 00	Interior Lighting

1.013 Division 27 – COMMUNICATIONS

A.	27 13 00	Communications Backbone Cabling
----	----------	---------------------------------

1.014 Division 28 – ELECTRONIC SAFETY AND SECURITY

- A. 28 05 13 Conductors and Cables for Electronic Safety and Security
- B. 28 05 28 Pathways for Electronic Safety and Security
- C. 28 31 11 Digital, Addressable Fire Alarm System

END OF SECTION

SECTION 00 0115

LIST OF DRAWING SHEETS

DRAWINGS

1.01	SHEET	TITLE	
	A.	00-G000	Cover Sheet
	B.	00-G001	Campus Map
	C.	00-CD02	Existing Conditions and Demolition Plan
	D.	00-CD03	Existing Conditions and Demolition Plan
	E.	00-C001	General Notes
	F.	00-C102	Site Plan
	G.	00-C103	Site Plan
	H.	00-C501	Construction Details
	I.	00-C202	Grading Plan
	J.	00-C203	Grading Plan
	K.	00-A001	Architectural General Information
	L.	00-M000	General Mechanical and Plumbing Symbols & Notes
	M.	00-E000	Electrical General Information
	N.	00-E010	Electrical Site Plan – Linden Court
	O.	00-E012	Electrical Riser Diagram
	P.	10-AD00	Basement Demolition and Floor Plan
	Q.	10-MD01	Basement Mechanical Piping Demolition Plan
	R.	10-M100	Basement Mechanical Piping Plan
	S.	10-M500	Mechanical Controls
	T.	10-M600	Mechanical Schedules and Details
	U.	10-E100	Basement Level Chiller Upgrades
	V.	12-AD00	Basement Demolition and Floor Plan
	W.	12-MD01	Basement Mechanical Piping Demolition Plan
	X.	12-M100	Basement Mechanical Piping Plan
	Y.	12-M500	Mechanical Controls
	Z.	12-M600	Mechanical Schedules and Details
	AA.	12-E100	Basement Level Chiller Upgrades
	BB.	15-G002	Electrical General Information
	CC.	15-MD101	Mechanical Demolition Plans
	DD.	15-M100	Mechanical Plans
	EE.	15-M600	Mechanical Schedules and Details
	FF.	15-ED201	First Floor and Mezzanine Level Power Demolition Plans
	GG.	15-E201	First Floor and Mezzanine Level Power Plan
	HH.	15-E600	Electrical Schedules
	II.	16-AD01	Basement, First, and Second Floor Demolition Plans
	JJ.	16-A100	Basement Floor Plan
	KK.	16-A101	First Floor Plan
	LL.	16-A102	Second Floor and Third Floor Plan
	MM.	16-A110	Basement and First Floor Reflected Ceiling Plans
	NN.	16-A111	Second and Third Floor Reflected Ceiling Plans
	OO.	16-MD100	Basement Mechanical Piping Demolition Plan
	PP.	16-MD101	First Floor Mechanical Piping Demolition Plan
	QQ.	16-MD102	Second and Third Floor Mechanical Piping Demolition Plan
	RR.	16-M100	Basement Mechanical Piping Plan
	SS.	16-M101	First Floor Mechanical Piping Plan
	TT.	16-M102	Second and Third Floor Mechanical Piping Plan

UU.	16-M300	Basement Mechanical Thermostat Plan
VV.	16-M301	First Floor Mechanical Thermostat Plan
WW.	16-M302	Second and Third Floor Mechanical Thermostat Plan
XX.	16-M400	Enlarged Mechanical Plans and Schematics
YY.	16-M500	Mechanical Details
ZZ.	16-M501	Mechanical Controls
AAA.	16-M600	Mechanical Schedules
BBB.	16-ED100	Basement Electrical Systems Demolition Plan
CCC.	16-ED101	First Floor Electrical Systems Demolition Plan
DDD.	16-ED102	Second and Third Floor Electrical Systems Demolition Plan
EEE.	16-E100	Basement Electrical Systems Plan
FFF.	16-E101	First Floor Electrical Systems Plan
GGG.	16-E102	Second and Third Floor Electrical Systems Plan
HHH.	16-E400	Electrical Schedules
III.	18-MD100	Basement Mechanical Piping Demolition Plan
JJJ.	18-MD101	First Floor Mechanical Piping Demolition Plan
KKK.	18-M100	Basement Mechanical Piping Plan
LLL.	18-M101	First Floor Mechanical Piping Plan
MMM.	18-M102	Second Floor Mechanical Piping Plan
NNN.	18-M600	Mechanical Schedules
OOO.	18-ED100	Basement Electrical Systems Demolition Plan
PPP.	18-ED101	First Floor Electrical Systems Demolition Plan
QQQ.	18-ED102	Second and Third Floor Electrical Systems Demolition Plan
RRR.	18-E100	Basement Electrical Systems Plan
SSS.	18-E101	First Floor Electrical Systems Plan
TTT.	18-E102	Second and Third Floor Electrical Systems Plan
UUU.	18-E400	Electrical Schedules

END OF SECTION

SECTION 00 0116

BID SUBMITTAL CHECKLIST

PART 1 - GENERAL

1.01 BID SUBMITTAL CHECKLIST

- A. The Bidder is responsible to see that the bid is submitted online at [IMPACS Electronic Procurement System](#) on or before the due date and time specified. Late bids shall not be accepted.
- B. Bids shall be typewritten or in ink. All information requested shall accompany the bid. All blocks shall be completed. Errors shall be lined out and initialed.
- C. The right is reserved to reject any or all bids. The State may waive minor deficiencies or informalities in the best interest of the State of Iowa.
- D. A properly prepared and submitted bid document is the bidder's responsibility.
- E. Bids cannot be changed after the bid opening.
- F. In all cases, no verbal communications by any party will override written communications from the issuing office.
- G. The Bid Form shall be completed in full and signed and submitted by an officer of the bidder with authority to bind in a contract.
- H. If Bid Bond is called for, it shall accompany the Bid submission.
- I. If Non-discrimination Clause information is called for, it shall accompany the Bid submission.
- J. If Targeted Small Business Pre-bid Contact information is called for, it shall accompany the Bid submission.
- K. If Certificate of Site Visit form is called for, it shall accompany the Bid submission.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 00 1113

NOTICE TO BIDDERS

RFB #927940-01

The Iowa Department of Administrative Services will be receiving bids for replacing the steam system with hot water in the Birches, Powerhouse, and Dispatch Garage buildings, installing new chilled water systems in the Medical Center and Elmcrest buildings and replacing the fire alarm system in the Birches and Powerhouse buildings at Woodward Resource Center 1251 334th Street, Woodward, Iowa 50276.

The Iowa Department of Administrative Services anticipates construction to begin on June 23, 2025 and end on May 29, 2026.

Bids must be received no later than **2:00 pm, Wednesday, May 14, 2025**. Late bids will not be considered. Bids shall be submitted on IMPACS Electronic Procurement System. The Bid shall be accompanied by a Bid Security as set forth in the Instructions to Bidders in the amount of 5% of the total bid amount. Each bid shall be accompanied by a bid bond, cashier's check or a certified check drawn upon a solvent bank chartered under the laws of the United States of America.

Bid Opening

The time and place of bid opening will be held at meet.google.com/jbt-gber-msw and teleconference number 518-672-1732 Pin: 411 639 512# at 3:00 pm on May 14, 2025.

The Iowa Department of Administrative Services reserves the right to reject any and all bids, and to waive irregularities and to accept a bid that is deemed in the best interest of the State of Iowa.

Bidders must comply with all affirmative action/equal employment opportunity provisions of the State of Iowa and the Federal Government.

This project is exempt from Iowa Sales Tax. Davis Bacon Wages **will not** apply to this project.

Questions must be submitted by 10:00 am, May 7, 2025, to the Issuing Officer.

Bidding documents may stipulate a specific product. Substitute product will be considered if a written request is received by 10:00 am, May 7, 2025, prior to bid opening. Substitution requests will be considered for all products per Section 01 2500 Substitution Procedures, even if the specification does not include a statement such as "or equal," "equal to," "equivalent to," or "basis of design," unless otherwise noted.

An **optional** Pre-Bid meeting will be held on Wednesday, April 30, 2025 at 10:00 am at Story Construction CP2.0 trailer at Woodward Resource Center at 1251 334th Street, Woodward, Iowa 50276. This meeting is not mandatory but is highly recommended.

Bidding Documents, including drawing sheets bearing the project name WRC Decentralization Phase 4 & Fire Alarm Phase 3 Bid Issuance #1, Dated 03/14/2025 and the Project Manual prepared by Shive-Hattery dated 03/14/2025, may be obtained from Rapids Reproductions by visiting www.rapidsrepro.com or by calling (515) 251-3222 on Monday through Friday 8:00 am to 5:00 pm.

For further information regarding this project contact:

Michael Bradbury – Issuing Officer

Phone: (515) 823-9327

E-Mail: construction.procurement@iowa.gov

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 00 2113
INSTRUCTIONS TO BIDDERS
RFB #927940-01

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Project Description
- B. Owner
- C. State Agency Representatives and Contacts
- D. Proposal Form and Submissions
- E. Taxes
- F. Alternate Bids
- G. Drawings
- H. Bid Security
- I. Due Date and Time for Receipt of Bids
- J. Commencement and Completion Date
- K. Site Visit
- L. Pre-bid Meeting
- M. Questions
- N. Addenda and Interpretations of the Contract Documents
- O. Substitutions
- P. Obligation of Bidder
- Q. Public Records and Requests for Confidential Treatment
- R. Withdrawal of Bid
- S. Bid Closing
- T. Basis of Bids
- U. Informalities/Rejection of Bids
- V. Consideration of Bids
- W. Preference
- X. Qualifications
- Y. Insurance
- Z. Form of Agreement between Owner and Contractor
- AA. Execution of Contract
- BB. Laws and Regulations
- CC. Contract Documents and Order of Precedence
- DD. Conditions of the Work
- EE. Subcontracts
- FF. Project Manual/Drawings

1.02 PROJECT DESCRIPTION

- A. Project Description: Replacing the steam system with hot water in the Birches, Powerhouse, and Dispatch Garage buildings, installing new chilled water systems in the Medical Center and Elmcrest buildings and replacing the fire alarm system in the Birches and Powerhouse buildings at Woodward Resource Center 1251 334th Street, Woodward, Iowa 50276.

1.03 OWNER

- A. State of Iowa, Department of Administrative Services, 109 SE 13th St, Des Moines, IA 50319

1.04 STATE AGENCY REPRESENTATIVES AND CONTACTS

- A. PURCHASING AGENT: Michael Bradbury – Issuing Officer, State of Iowa, Department of Administrative Services, Hoover State Office Building, 3rd floor, 1305 East Walnut Street, Des Moines, IA 50319-0105, Phone: 515-823-9327; email: construction.procurement@iowa.gov
- B. OWNER REPRESENTATIVE: Jennifer Kleene, State of Iowa, Department of Administrative Services, 109 SE 13th Street, Des Moines, IA 50319, Phone: 515-822-8197; email: jennifer.kleene@iowa.gov
- C. ON-SITE COORDINATOR: Rodney Carr, Plant Operations Manager, 1251 334th Street, Woodward, Iowa 50276, Phone: 515-314-6643; email: Rodney.carr@hhs.iowa.gov
- D. CONSTRUCTION MANAGER CONTACT: Darren Milliken, Story Construction, 2810 Wakefield Circle, Ames, Iowa 50226, Phone: 515-291-5358; email: darren.milliken@storycon.com
- E. DESIGN PROFESSIONAL CONTACT: Chris Bauer, Shive-Hattery Inc., 4125 Westown Parkway Suite 100, West Des Moines, Iowa 50266, Phone: 515-669-0695; email: cbauer@shive-hattery.com
- F. COMMISSIONING AGENT CONTACT: Andrew Bennett, SystemWorks, 409 Fifth Street, West Des Moines, Iowa 50265, Phone: 515-975-8251; email: andrew.bennett@systemworksllc.com

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 PROPOSAL FORM AND SUBMISSION

- A. A properly prepared and submitted bid is the bidder's responsibility. Bids are to be made in accordance with these Instructions to Bidders and items included on the Bid submission. Failure to comply may be cause for rejection.
- B. The Bid is to consist of the required Bid information, together with the other information specified below to be submitted with the Bid, in which copies are included with these Bidding Documents.
 - 1. The total bid package submitted is required to include the following:
 - a. An online submission including:
 - 1) Required Bid Form (To be uploaded online)
 - 2) Required Non-discrimination Clause Information
 - 3) Required Targeted Small Business Pre-bid Contact Information
 - 4) Bid Security (documentation provided by Bidder) (To be uploaded online) (Required)
 - 5) Certification of Site Visit (To be uploaded online if Pre-Bid is Mandatory)
- C. Include the amount for performing all work described in the drawings and specifications for Base Bid and for each Alternate Bid requested.
- D. Acknowledge receipt of all Addenda issued, where so indicated on the Bid Form
- E. All required information to be submitted, by an officer of the company having authority to bind the company in a contract.
- F. Commencement of the work of the contract shall begin with the Contractor's receipt of a fully executed contract (signed by both parties).
- G. The Owner reserves the right to award a contract for Base Bid only, or for Base Bid in combination with any, or all, identified Alternate Bids. The Owner reserves the right to award a contract for individual Bid Packages, or any combination of Bid Packages. Each Bidder must comply with all of the General Requirements of the project and any requirements of the Project manual that apply to their scope of work.
- H. The company's Federal I.D. Number and the Iowa Contractors Registration Number shall be included in the Bid Form.
- I. Unless indicated otherwise, the Bid shall be for a single responsibility contract for all work as indicated on the Drawings and specified in the Project Manual, and shall be a lump sum amount.

- If no change in the Base Bid amount is required with respect to consideration of a particular Alternate Bid, enter "No Change" in the blank for that Alternate Bid.
- J. Where so requested, provide Unit Prices for the designated types of work and in the units specified, in which the Unit Prices would be used as adjustments to the quantities described in the instructions as the basis for the Base Bid and any Alternate Bid work. A Unit Price would be applicable in the event the Owner should request additional work of that type beyond the extent and quantity that has been established as the scope of the work by graphic delineation and notations on the Drawings, or by otherwise stipulating in the Bidding Documents a numerical quantity of the work, for the Bidder's use in determining the lump sum bid amount for the Base Bid and any requested Alternate Bid containing such work. The Unit Prices shall also be used to adjust the Contract Amount for actual quantities of work involved when the work subject to Unit Price adjustment differs by being less in quantity than that contemplated by the original scope of work for the respective Base Bid or Alternate Bid.
 - K. Completed State of Iowa Nondiscrimination Clause information and Subcontractor Targeted Small Business Enterprise Pre-Bid Contact Information, included in these Bidding Documents, are to accompany the Bid submission. Bidders shall comply with all affirmative action/equal opportunity provisions of State and Federal laws. The Owner seeks to provide opportunities for Targeted Small Businesses in accordance with the provisions of Chapter 73 of the Code of Iowa.
 - L. All Bid information is to be submitted online. Any required Bid Security shall be provided, in the form and amount specified elsewhere in these Instructions to Bidders, at the time of submission of the Bid. When a site visit is mandatory as specified elsewhere in these Instructions to Bidders, and a Certificate of Site Visit is required to be submitted with the Bid as evidence of such visit having occurred for purposes of observing the conditions of the site and the work proposed therein, the Certificate shall be uploaded with the bid submission.

3.02 TAXES

- A. In accordance with Section 423 of the Code of Iowa and 701-19 of the Iowa Administrative Rules, Iowa Construction Sales Tax Exemption Certificates for this project will be issued. Do not include Iowa sales tax or use tax, or any local option sales tax, on construction materials in determining your bid prices. The successful Contractor will be required to notify the Department of Administrative Services project manager of all Subcontractors within forty-eight (48) hours after the published date and time by which bids must be submitted. Information on the Contractor and each Subcontractor shall include the firms' name, address, contact person, federal tax identification number, and the Iowa contractor registration number. For the Contractor and each Subcontractor, designate the type of trade or category of work that is to be provided on the project. The Construction Manager for the Department of Administrative Services must be informed when any Subcontractor is added to the project. Following receipt of the information, the Construction Manager for the Department of Administrative Services will arrange to have an authorization letter and certificate (please see sample, included in the Project Manual) issued on behalf of the Contractor and each Subcontractor and will forward the documents to the Contractor for distribution and use by each in purchasing construction materials for this project. Certificates issued for this project shall be used for tax-exempt purchasing construction materials for this project only.

3.03 ALTERNATE BIDS

- A. Bidders are to bid all Alternates requested on the Bid Form. Alternates quoted will be reviewed and accepted or rejected at the option of the Department of Administrative Services. Accepted Alternates will be identified in the Owner-Contractor agreement. Indicate the price for Alternates described, as shown on the Drawings and specified in the Project Manual, and identify in the correct location on the Bid Form.

3.04 DRAWINGS AND PROJECT MANUAL

- A. Drawings and Project Manual are specified in the Notice to Bidders or any extension thereof made by Addendum.

3.05 BID SECURITY

- A. Each Bid shall be accompanied by Bid Security.
- B. The Bid Security shall be in the form of a Bid Bond, Certified check, or Cashier's check in an amount not less than five percent (5%) of the maximum value of the Bid, including any additive Alternates. NOTE: Checks other than Certified checks and Cashier's checks will not be accepted. Bonds shall be issued by a bonding company licensed to transact business in the State of Iowa. The Attorney in Fact who signs the Bond shall file with the Bond a certified and effectively dated copy of their Power of Attorney. The Bid Security shall be made payable to the Iowa Department of Administrative Services, and shall accompany the Bid. If a Bid Bond is not used, copies of Certified checks or Cashier's checks must be uploaded and hand delivered, in a sealed envelope, or mailed upon request. The Bid Security shall serve as a guarantee that a Bidder who is offered a contract will enter into an Agreement with the State of Iowa and will file an approved surety company's Performance Bond, Payment Bond and the Insurance Certificates as evidence of the required Insurance prior to execution of the contract. Upon failure to comply, the Bid Security shall be forfeited as liquidated damages. The governmental entity shall retain the bid security furnished by the successful bidder until the approved contract form has been fully executed, a bond has been filed by the bidder guaranteeing the performance of the contract, and the contract and bond have been approved by the governmental entity. The provisions of chapter 573, where applicable, apply to contracts awarded under this chapter. The governmental entity shall promptly return the checks or bidder's bonds of unsuccessful bidders to the bidders once the Notice of Intent to Award is issued.

3.06 DUE DATE AND TIME FOR RECEIPT OF BIDS

- A. Properly completed Bids shall be submitted online through [IMPACS Electronic Procurement System](#), no later than the time and date specified in the Notice to Bidder or any extension thereof made by Addendum. Written, emailed, oral or telephonic Bids are invalid, and will not receive consideration. The Bidder shall assume full responsibility for the timely online submission of the Bid. Late bids will not be accepted.

3.07 COMMENCEMENT AND COMPLETION DATES

- A. Commencement of the Work of the Contract shall be the day of receipt by the selected Contractor of the fully-executed contract. Final completion of the Work of the contract shall be acknowledged as a part of the Contractor's proposal.

3.08 SITE VISIT

- A. A site visit by the prospective bidder is highly recommended at the time of the Pre-Bid Meeting of this project.

3.09 PRE-BID MEETING

- A. Pre-Bid Meeting will be specified in the Notice to Bidders or any extension thereof made by Addendum.

3.010 QUESTIONS

- A. Questions on this project may be raised and discussed at the time of the Pre-Bid Meeting or by submitting in writing to the issuing officer as specified in the Notice to Bidders or any extension thereof made by Addendum.

3.011 ADDENDA AND INTERPRETATIONS OF THE CONTRACT DOCUMENTS

- A. Any person contemplating submitting a proposal for the proposed Contract, who is in doubt as to the true meaning of any part of the Bidding Documents, shall submit a written request for an interpretation thereof. The person submitting a request will be responsible for its prompt delivery. Every request for such interpretation should reference the Bid Number specified in the Bidding Documents, and shall be made in writing (email preferred). Questions shall be submitted to the previously identified Purchasing Agent for the Department of Administrative Services. To be given consideration, requests shall be received as specified in the Notice to Bidders or any extension thereof made by Addendum. Replies, which revise or correct the Bidding Documents, or provide necessary clarifications, will be issued in the form of a written Addendum to the Bidding Documents. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections, or changes. The Bidder is to include any resultant cost changes in the Bid Sum. Addenda will be posted electronically at the respective bid site where the bid is initially posted. Acknowledgment by the Bidder of each issued Addendum shall be noted in the location so indicated on the Bid. All Addenda issued shall become part of the Contract Documents.

3.012 SUBSTITUTIONS

- A. Where the Bidding Documents stipulate a specific product be provided by naming one or more manufacturer and model, a substitute product will be considered when a written request is received as specified in the Notice to Bidders or any extension thereof made by Addendum prior to bid opening. Substitution requests will be considered for all products per Section 01 2500 Substitution Procedures, even if the specification does not include a statement such as “or equal,” “equal to,” “equivalent to,” or “basis of design,” unless otherwise noted. Substitution requests shall be emailed to the Issuing Officer at the email address provided in Instructions to Bidders Section 1.04.

3.013 OBLIGATION OF BIDDER

- A. It shall be the responsibility of each Bidder contemplating the submission of a Bid for the proposed Contract to fully acquaint himself/herself with conditions at the work site, project requirements, and to become acquainted thoroughly with the work, and all conditions that may be related to it. No considerations or revision in the contract price or scope of the project will be considered by the Owner for any item that could have been revealed by a thorough on-site inspection and examination.
- B. By submission of a Bid, it shall be understood that the Bidder assures that he/she has reviewed and is thoroughly familiar with the project requirements, contract conditions and supplementary conditions, the drawings, specifications, addenda, and that the bidder is aware of the conditions existing at the site that may relate to the work of this project. Failure of any Bidder to examine any form, document, or other instrument shall in no way relieve the Bidder from any obligation in respect to his/her Bid.

3.014 PUBLIC RECORDS AND REQUESTS FOR CONFIDENTIAL TREATMENT

- A. The Agency’s release of public records is governed by Iowa Code chapter 22. Contractors are encouraged to familiarize themselves with Chapter 22 before submitting a Proposal. The Agency will copy and produce public records upon request as required to comply with Chapter 22 and will treat all information submitted by a Contractor as non-confidential records unless Contractor requests specific parts of the Proposal be treated as confidential at the time of the submission as set forth herein AND the information is confidential under Iowa or other applicable law.
- B. A Contractor requesting confidential treatment of specific information must: (1) fully complete Form 22 (Available at <https://das.iowa.gov/sites/default/files/procurement/pdf/Form%2022-ConfidentialityRequest-RFB.pdf>), (2) identify the request in the transmittal letter with the Contractor’s Proposal, (3) conspicuously mark the outside of its Proposal as containing confidential information, (4) mark e

- ach page upon which confidential information appears, and (5) submit a "Public Copy" from which the confidential information has been excised.
- C. Form 22 will not be considered fully complete unless, for each confidentiality request, the Contractor: (1) enumerates the specific grounds in Iowa Code chapter 22 or other applicable law that supports treatment of the material as confidential, (2) justifies why the material should be maintained in confidence, (3) explains why disclosure of the material would not be in the best interest of the public, and (4) sets forth the name, address, telephone, and e-mail for the person authorized by Contractor to respond to inquiries by the Agency concerning the confidential status of such material.
 - D. The Public Copy from which confidential information has been excised is in addition to the number of copies requested in Section 3 of this RFP. The confidential material must be excised in such a way as to allow the public to determine the general nature of the material removed and to retain as much of the Proposal as possible.
 - E. **Failure to request information be treated as confidential as specified herein shall relieve Agency and State personnel from any responsibility for maintaining the information in confidence. Contractors may not request confidential treatment with respect to pricing information and transmittal letters. A contractor's request for confidentiality that does not comply with this section or a contractor's request for confidentiality on information or material that cannot be held in confidence as set forth herein are grounds for rejecting contractor's Proposal as non-responsive. Requests to maintain an entire Proposal as confidential will be rejected as non-responsive.**
 - F. If Agency receives a request for information that Contractor has marked as confidential and if a judicial or administrative proceeding is initiated to compel the release of such material, Contractor shall, at its sole expense, appear in such action and defend its request for confidentiality. If Contractor fails to do so, Agency may release the information or material with or without providing advance notice to Contractor and with or without affording Contractor the opportunity to obtain an order restraining its release from a court possessing competent jurisdiction. Additionally, if Contractor fails to comply with the request process set forth herein, if Contractor's request for confidentiality is unreasonable, or if Contractor rescinds its request for confidential treatment, Agency may release such information or material with or without providing advance notice to Contractor and with or without affording Contractor the opportunity to obtain an order restraining its release from a court possessing competent jurisdiction.

3.015 WITHDRAWAL OF BID

- A. A Bid may be modified or withdrawn only before the time and date for receipt of Bids. Said request for modification or withdrawal of a bid must be completed online through [IMPACS Electronic Procurement System](#). A Bid shall remain valid for consideration by the Owner for the following period(s) of time after the date specified for receipt of Bids, or until such time following that period that the apparent low bidder requests in writing that the Bid be withdrawn, after which the Bid may be withdrawn without forfeiture of any required Bid Security. The Bid shall be valid for not less than thirty (30) calendar days after the date Bids are specified to be due. With the approval of the Department of Administrative Services, a bid may be withdrawn after opening, but only if the bidder provides prompt written notification that adequately documents the commission of an honest error that may cause undue financial loss.

3.016 BID OPENING

- A. All bids received on or before the due date and time specified in the Notice to Bidder or any extension thereof made by Addendum will be opened and the name of the Bidder and the amount of their Bid will be announced.

3.017 BASIS OF BIDS

- A. The Bidder shall include all additional documents or appendices that are requested to be submitted concurrent with the Bid submission; failure to comply may be cause for rejection.

- B. In accordance with Iowa law, Section 8A.311: A bidder, to be considered for an award of a state construction contract, shall disclose to the state agency awarding the contract the names of all subcontractors and suppliers who will work on the project being bid, within forty-eight (48) hours after the published date and time by which bids must be submitted. A bidder shall not replace a subcontractor or supplier disclosed without the approval of the state agency awarding the contract.
 - 1. A bidder, prior to an award or who is awarded a state construction contract, shall disclose all of the following, as applicable:
 - a. If a subcontractor or supplier disclosed (under the preceding) by a bidder is replaced, the reason for replacement and the name of the new subcontractor or supplier;
 - b. If the cost of work to be done by a subcontractor or supplier is changed or if the replacement of a subcontractor or supplier results in a change in the cost, the amount of the change in cost.
 - c. Any reduction in subcontractor or supplier price as a result of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.
- C. The Bidder is specifically advised that any person, firm or other party to whom it is proposed to award a subcontract under this contract must:
 - 1. Be registered in the State of Iowa and have an Iowa Contractor's Registration number, and
 - 2. Be acceptable to the Owner.

3.018 INFORMALITIES/ REJECTION OF BIDS

- A. The Iowa Department of Administrative Services reserves the right to waive any irregularities or informalities and to enter into a Contract with a Bidder, or to reject any or all bids as it deems to be in the best interest of the State, without penalty.

3.019 CONSIDERATION OF BIDS

- A. It is the intent of the Department of Administrative Services to award a Contract to the lowest responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and is determined to be compliant with all Bidding Requirements, and does not exceed the funds available for construction.
- B. Bidder is to bid on each Alternate Bid requested. Failure to do so may result in disqualification of the bid. The Department of Administrative Services reserves the right to accept any, or no, Alternate Bid. Alternate Bids may be considered in any order or combination, and the low successful Bidder will be determined on the basis of the sum of the Base Bid and the Alternate(s) accepted at the time of the Contract award.
- C. In evaluating Bids, any proposal offered by a Bidder for an alternate design, or for materials other than those shown or specified for the Base Bid or for Alternate Bid construction under the proposed Construction Documents or called for by any issued Addenda to those Construction Documents, will not be considered in determining the low successful Bidder. However, the Department of Administrative Services reserves the right to consider any such Bidder-proposed (Contractor's Alternate) alternate designs or materials with the low successful Bidder, after the low successful Bidder is determined in the manner described above (A and B).
- D. Notice of Intent to Award the Bid(s) will be sent to all Respondents submitting a timely Bid and may be posted at the website shown on the RFB cover sheet. Negotiation and execution of the Contract(s) shall be completed no later than fifteen (15) days from the date of the Notice of Intent to Award or such other time as designated by Agency. If the successful Bidder fails to negotiate and deliver an executed Contract, including all required documents such as payment and performance bonds and insurance certificate, by that date, the Agency, in its sole discretion, may cancel the award and award the Contract to the remaining Bidder the Agency believes will provide the best value to the State.

3.020 PREFERENCE

- A. By virtue of statutory authority, a preference shall be given to Iowa domestic labor, products produced and provisions grown within the state of Iowa, in accordance with the provisions of Chapter 73, Code of Iowa and any amendments thereto.
- B. Enforcement of reciprocal resident bidder preference and resident labor force preference codified at Iowa Code Section 73A.21.
 - 1. NOTICE: Failure on the part of the bidder to carefully read the following paragraphs and to provide the information requested below may make the bidder's bid materially nonresponsive and therefore ineligible for contract award. Violations of Iowa Code Section 73A.21 may, among other things, result in civil penalties assessed by the Commissioner of the Division of Labor of Iowa Workforce Development. The bidder should seek out the advice of an attorney if he or she has questions about Iowa Code Section 73A.21. As a part of the competitive procurement of contracts for Public Improvements that must be awarded to the low bidder (if the bid is responsive and the bidder is deemed responsible), Public Bodies shall allow a preference to Resident Bidders if a Nonresident Bidder places a bid for the contract for the Public Improvement and that Nonresident Bidder's state or foreign country gives resident bidders of that state or foreign country a preference (including a labor force preference or any type of preferential treatment). The preference allowed, or reciprocally applied, shall be equal to the preference given or required by the state or foreign country in which the Nonresident Bidder is a resident bidder.

"Public Body" means the State of Iowa (and its agencies) and any of its political subdivisions, including school districts, public utilities, and the state board of regents.

"Public Improvement" means a building or other construction work to be paid for in whole or in part by the use of funds of the State of Iowa, its agencies, and any of its political subdivisions and includes road construction, reconstruction, and maintenance projects.

"Resident Bidder" means a person or entity authorized to transact business in of the State of Iowa and having a place of business for transacting business within the State of Iowa at which it is conducting and has conducted business for at least three years prior to the date of the first advertisement for the public improvement. Note, however, that if a nonresident bidder's state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable as to bidders from that state or foreign country.

"Nonresident Bidder" means a person or entity who does not meet the definition of a resident bidder.
- C. Nonresident bidders shall be required to certify on the Bid submission, where so indicated, the state or foreign country in which the firm is a resident, and if that state or foreign country uses a percentage for in-state bidders and the amount of the preference.
- D. If it is determined that this may cause denial of federal funds which would otherwise be available, or would otherwise be inconsistent with requirements of federal law, this section shall be suspended, but only to the extent necessary to prevent denial of the funds or to eliminate the inconsistency with federal requirements.

3.021 QUALIFICATIONS

- A. In accordance with Iowa Code 26.9(2) and 26.16, no potential bidder shall be required to provide confidential or proprietary information or meet any class requirements as a precondition to submitting a responsive bid. However, as noted in Iowa Code 26.9(2), the lowest responsive bidder may be required to provide additional information to verify responsibility prior to and as a condition of obtaining final award of the contract. Any qualification requirements contained in any bid document indicates only preferred qualifications, not a precondition to bid, and the lowest responsive bidder's qualifications will be evaluated individually based on all information provided.
- B. The Owner may make such investigations as he or she deems necessary to determine the ability of the awarded Bidder to perform the required work, and the awarded Bidder shall furnish to the Owner all such information and data for this purpose. The Owner reserves the right to rescind any awarded Bid if the evidence submitted by, or in investigation of, such Bidder fails to satisfy

- the Owner that the Bidder is properly qualified to carry-out the obligations of the Contract and to complete the Work contemplated therein.
- C. Bidders shall be registered as a Construction Contractor with the Labor Commissioner, Iowa Workforce Development Department, as required by Chapter 91C of the Code of Iowa. Bidder's Iowa Contractor Registration Number shall be included in the location provided in the Bid Form.
 - D. Non-resident corporations submitting bids must be in compliance with Section 490.1501 of the Code of Iowa and legally authorized thereby to carry-on such business in the State of Iowa as is required by the Contract Documents.
 - E. An out-of-state Bidder, if awarded a contract, will be required to submit evidence of authorization to do business in the State of Iowa.

3.022 INSURANCE

- A. Insurance Requirements
 - 1. The Contractor shall maintain in effect, with insurance companies of recognized responsibility, at its expense, insurance covering its work of the type and in amounts required by this Contract. The Contractor's insurance shall, among other things, insure against any loss or damage resulting from the Contractor's performance of this Contract. All such insurance policies shall remain in full force and effect for the entire life of this Contract and shall not be canceled or changed except after thirty (30) days written notice to the Owner.
 - 2. **Amounts of Insurance Required – Refer to ConsensusDOCS 802 (see template in Project Manual)**
- B. Certificates of Coverage
 - 1. Certificates of the insurance described above shall be submitted to the Owner before starting any construction activities and shall be subject to approval by the Owner. The Contractor shall provide certificates for the insurance required. The insurer shall state in the certificate that no cancellation of the insurance will be made without at least thirty (30) days prior written notice to the Contractor. Upon receipt of any notice of cancellation or alteration, Contractor shall within ten (10) days procure other policies of insurance, similar in all respects to the policy or policies, about to be canceled or altered, and, if the Contractor fails to provide, procure, and deliver acceptable policies of insurance, or satisfactory evidence thereof, in accordance with the terms hereof then, at the Owner's option, Owner may obtain such insurance at the cost and expense of Contractor, without the need of any notice to Contractor.
- C. No Limitation of Liability
 - 1. Acceptance of the insurance certificates by the Owner shall not act to relieve the Contractor of any obligation under this Contract. All insurance policies and certificates shall be issued only by companies authorized to transact business in the State of Iowa. It shall be the responsibility of the Contractor to keep the respective insurance policies and coverage's current and in force during the life of this agreement.
 - 2. A Sample Certificate of Insurance is attached for reference following this Section.

3.023 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

- A. The Agreement for the Work will be written on ConsensusDOCS 802 Form of Agreement between Owner and Contractor (sample of the document with modifications incorporated is bound in this Project Manual).

3.024 EXECUTION OF CONTRACT

- A. Contract documents shall mean and include the following:
 - 1. Contract: ConsensusDOCS 802
 - 2. Performance and Payment Bonds
 - 3. Project Manual
 - 4. Drawings
 - 5. Numbered Addenda issued after initial publication of Bid Documents

6. Numbered Modifications (Change Orders) issued after Contract is signed

3.025 LAWS AND REGULATIONS

- A. The Bidder's attention is directed to the fact that all applicable laws and regulations of Federal and State agencies having jurisdiction over the construction of this project shall apply to any contract resulting from this proposal, and it shall be deemed that those rules and regulations are made a part of such contract the same as if set forth in their entirety therein. By submitting a Bid, the Bidder confirms that he/she is familiar with and understands the Contractor's responsibility under all Federal and State of Iowa laws and regulations with respect to the Work described by the proposed Contract Documents.

3.026 CONTRACT DOCUMENTS AND ORDER OF PRECEDENCE

- A. Where an irreconcilable conflict exists among Applicable Legal Requirements, this Contract, the specifications in the Materials and the Drawings, the earliest item mentioned in this sentence involving a conflict shall control over any later mentioned item or items subject to such conflict unless doing so would result in reducing the Bidder's duty of care or obligations under this Contract, in which case the terms resulting in the highest requirements for Bidder performance shall control.

3.027 CONDITIONS OF THE WORK

- A. Each bidder must fully inform him/herself of the conditions under which the work is to be performed at the site of the work, the obstacles which may be encountered, and all other relevant matters concerning the work to be performed. Failure to do so will not relieve a successful bidder of the obligation to furnish all material and labor necessary to carry out the provisions of the contract. When a site visit is required by provisions located elsewhere in these Instructions to Bidders, as a site tour in conjunction with a mandatory Pre-Bid Meeting, it shall be the Bidder's responsibility to fulfill this obligation as a condition of bidding the Work described in the Bidding Documents.
- B. No allowance will be made for any additional compensation by reason of any matter or condition with which the bidder might have fully informed him/herself, but failed to do so prior to bidding. Insofar as possible, the Contractor and all subcontractors shall employ such methods or means in carrying out the work so as not to cause any interruption of, or interference with, the work of any other subcontractor or trade.

3.028 SUBCONTRACTS

- A. The Prime Contractor shall be responsible for notifying all subcontractors and suppliers and informing them that they are bound in each case by all applicable provisions of the bidding information and those of the proposed Form of Agreements as defined in the Contract Documents.

END OF SECTION

SECTION 00 2113.01

IMPACS Public Construction Bidders User Guide

Public construction bids must be submitted on-line at [IMPACS Electronic Procurement System](#).

Bidders must be registered in IMPACS to submit a Bid.

To create an account, enter your email address and click on "Next" and click "Create Account". Bidder must enter all fields noted with * including legal company name, contact first and last name, phone number, confirm email address, password, re-enter password, select account recovery question including answer, confirm answer, select box accepting websites use terms and conditions and select security check box "I'm not a robot".

On the [IMPACS Electronic Procurement System](#) Customer Portal Home page, Bidder selects "View Event" in the Sourcing Events section.



Event Number	Status	Event Title	Dates	Action
RFB923700-02	Open	Hoover East Side Pavers	Open: 4/27/2022 12:00:00 PM CDT Close: 5/5/2022 12:00:00 PM CDT	View Event

Bidders can view event details including description, prerequisites, buyer attachments, questions and answers.

To submit a Bid, Bidder must select "**Yes, I intend to Bid**". Bidder must complete the following sections.

Prerequisites - Bidder must complete all prerequisites.

- Bidder must upload a file of the Bid Security/Bond for 5% of total Bid Amount and certify that if they are awarded the construction contract they will enter into the contract at the Bid Amount submitted.
- Bidder must upload the completed and signed Bid Form.
NOTE: Bids are to be entered on the Bid Form only; not in the IMPACS. As a result, IMPACS will display a bid amount of \$0.

Questions - Bidder must complete all questions.

Review & Submit - Bidder must select the certification box certifying that the statements and information in response are true and correct to the best of their knowledge and belief.

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 00 3113

PRELIMINARY SCHEDULE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Preliminary Construction Schedule
- B. Schedule Durations

1.02 PRELIMINARY SCHEDULE

- A. A preliminary schedule has been identified by the Owner for the implementation of the Project. Refer to the schedule following this Section for references to anticipated milestones and construction duration.
- B. Each step of the Preliminary Schedule is subject to receipt of acceptable bids, Owner's decision process and date of commencement.
- C. A proposed construction schedule shall be submitted by all Trade Contractors to the Construction Manager no later than 48 hours prior to the pre-construction meeting. A revised Construction Schedule will be submitted by the Construction Manager once all preliminary schedules are reviewed and approved by the Owner.
- D. The final construction schedule will be established post award of bids with the cooperation of all contractors.

1.03 SCHEDULE DURATIONS

- A. Anticipated Notice of Intent to Award – 5/15/2025
- B. Anticipated Date of Commencement – 6/23/2025
- C. Heat on in Birches Building – 11/14/2025
- D. Anticipated Completion of Birches Building – 12/26/2025
- E. Anticipated Completion of Powerhouse Building – 1/16/2026
- F. Anticipated Completion of Dispatch Garage Building – 2/13/2026
- G. Cooling on in Elmcrest and Med Center – 3/27/2026
- H. Anticipated Completion of Elmcrest Chiller – 5/15/2026
- I. Anticipated Completion of Med Center Chiller – 5/29/2026
- J. Substantial Completion by – 5/29/2026

PART 2 - PRODUCTS – NOT USED

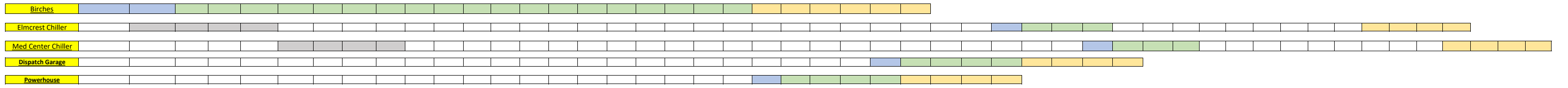
PART 3 - EXECUTION – NOT USED

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

Week Ending	6/27/2025	7/4/2025	7/11/2025	7/18/2025	7/25/2025	8/1/2025	8/8/2025	8/15/2025	8/22/2025	8/29/2025	9/5/2025	9/12/2025	9/19/2025	9/26/2025	10/3/2025	10/10/2025	10/17/2025	10/24/2025	10/31/2025	11/7/2025	11/14/2025	11/21/2025	11/28/2025	12/5/2025	12/12/2025	12/19/2025	12/26/2025	1/2/2026	1/9/2026	1/16/2026	1/23/2026	1/30/2026	2/6/2026	2/13/2026	2/20/2026	2/27/2026	3/6/2026	3/13/2026	3/20/2026	3/27/2026	4/3/2026	4/10/2026	4/17/2026	4/24/2026	5/1/2026	5/8/2026	5/15/2026	5/22/2026	5/29/2026
-------------	-----------	----------	-----------	-----------	-----------	----------	----------	-----------	-----------	-----------	----------	-----------	-----------	-----------	-----------	------------	------------	------------	------------	-----------	------------	------------	------------	-----------	------------	------------	------------	----------	----------	-----------	-----------	-----------	----------	-----------	-----------	-----------	----------	-----------	-----------	-----------	----------	-----------	-----------	-----------	----------	----------	-----------	-----------	-----------

Construction Start



- Demo
- Install
- Punch & Commissioning
- Chiller Pads

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 00 3126

EXISTING HAZARDOUS MATERIAL INFORMATION

PART 1 - GENERAL

1.01 EXISTING HAZARDOUS MATERIAL INFORMATION

- A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information, but are not a warranty of existing conditions.
- B. The existing hazardous materials survey reports related to this Project, were prepared by:
 - 1. Atlas Technical Consultants LLC
4503 East 50th Street, Suite 800 Des Moines, IA 50317
- C. Related Requirements:
 - 1. Section 3.12 "Hazardous Materials" in the ConsensusDocs 802 contract for notification requirements if materials suspected of containing hazardous materials are encountered.
 - 2. Atlas Survey Report for Hazardous Building Materials dated
 - a. Survey Number: 204BS07475 – Birches, Chiller Plant, Powerhouse.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**



**H A Z A R D O U S B U I L D I N G M A T E R I A L S
S U R V E Y**

PREPARED FOR:

Iowa Department of Administrative Services
109 SE 13th Street
Des Moines, Iowa 50319

PROJECT LOCATION:

Woodward Resource Center - Phase 4 Decentralization Project #9279
Birches Building
1251 334th Street
Woodward, Iowa

Project Date: September 25 and November 20, 2024

Report Date: December 16, 2024

Atlas Project ID: 204BS07475

PREPARED BY:

Atlas Technical Consultants LLC
4503 East 50th Street, Suite 800
Des Moines, IA 50317



December 16, 2024

Ms. Jennifer Kleene
Iowa Department of Administrative Services
109 SE 13th Street
Des Moines, IA 50319

Re: Hazardous Building Materials Survey Report – Birches Building
Woodward Resource Center – Phase 4 Decentralization Project #9279
1251 334th Street
Woodward, Iowa
Atlas Project Number: 204BS07475

Atlas is pleased to submit the attached Hazardous Building Materials Survey Report for the above-referenced site. This report includes procedures, methodologies and analytical laboratory results.

Atlas appreciates the opportunity to perform these services for the Iowa Department of Administrative Services (IDAS), and we look forward to working with you in the future. If you need any assistance with the implementation of the recommendations contained in this report, please feel free to give us a call at (515) 981-4528 and we will respond promptly to your needs.

Sincerely,

ATLAS TECHNICAL CONSULTANTS LLC

A handwritten signature in blue ink that reads "Eric Brown". The signature is fluid and cursive, written over a horizontal line.

Eric Brown
Iowa Inspector
(515) 981-4528

A handwritten signature in blue ink that reads "Steve Hudson". The signature is fluid and cursive, written over a horizontal line.

Steve Hudson, MS, CIH
Senior Project Manager
(402) 670-3842

T A B L E O F C O N T E N T S

LETTER OF TRANSMITTAL	i
1.0 SCOPE OF SERVICES	4
2.0 GENERAL SITE CONDITIONS.....	4
3.0 ASBESTOS SURVEY	4
3.1 Regulation Review	5
3.2 Homogeneous Areas	5
3.3 Sampling Strategy	5
3.4 Laboratory Analytical Results.....	6
3.5 Suspect Asbestos-Containing Materials.....	6
4.0 LEAD PAINT CHIP TESTING	8
4.1 Inspection	8
4.2 Lead Paint Testing	9
5.0 HAZARDOUS MATERIALS ASSESSMENT.....	10
6.0 CONCLUSIONS	11
6.1 Asbestos.....	11
6.2 Lead	11
6.3 Hazardous Building Materials.....	12
7.0 ASSUMPTIONS AND LIMITATIONS.....	12

APPENDICES

APPENDIX A:	Asbestos Analytical Report and Chain of Custody
APPENDIX B:	Lead Analytical Report and Chain of Custody
APPENDIX C:	Drawings with Sample Locations
APPENDIX D:	Asbestos and Lead Paint Photo Logs
APPENDIX E:	Inspector Accreditations



HAZARDOUS BUILDING MATERIALS SURVEY REPORT

Woodward Resource Center – Birches Building
Phase 4 Decentralization Project #9279
1251 334th Street
Woodward, Iowa
Atlas Project Number: 204BS07475

1.0 SCOPE OF SERVICES

The purpose of this project was to perform a survey to identify hazardous building materials at the above-referenced property.

Atlas provided a representative asbestos survey in accordance with the referenced agreement and as outlined below:

1. Review any existing hazardous building material survey reports relating to the site, if available.
2. Identify suspect asbestos-containing materials (ACM), surface coatings potentially containing lead paint, and hazardous building materials throughout the interior and exterior of the building, not including the roof.
3. Collect and analyze bulk samples of suspect asbestos containing materials and collect paint chip samples from representative surface coatings potentially containing lead-based or lead-containing paint.
4. Provide laboratory analysis of collected samples.
5. Provide a report of findings with copies and interpretation of analytical results and identifying the locations of asbestos-containing materials, lead paint, and hazardous building materials.

2.0 GENERAL SITE CONDITIONS

The survey was conducted at the Woodward Resource Center – Birches Building located at 1251 334th Street in Woodward, Iowa. The survey was limited to accessible surfaces on the interior and exterior of the building, not including the roof.

3.0 ASBESTOS SURVEY

On September 25 and November 20, 2024, the Birches Building was inspected for ACMs by inspector Eric Brown of Atlas. Mr. Brown has completed the requisite training for asbestos accreditation as inspectors at a state approved training provider under TSCA Title II. Mr. Brown's State of Iowa Inspector number is 24-11418.

Accessible areas were visually inspected for the presence of suspect ACMs. Materials that were hidden, not accessible, or when sampled would damage the integrity of the structure, were not sampled as part of this survey. Materials visibly identified as non-asbestos (fibrous glass, foam



rubber, wood, etc.) were not sampled. The asbestos survey consisted of three basic steps: **1)** a visual inspection of the proposed work areas; **2)** a determination of homogeneous areas with suspect surfacing, thermal system insulation, and miscellaneous materials; and **3)** sampling accessible, friable and non-friable, suspect materials.

3.1 Regulation Review

The United States Environmental Protection Agency (USEPA) qualifies ACM as materials with an asbestos content greater than 1%. The following definitions are taken from Section 61.141 of Subpart M, Part 61 of Title 40: Protection of Environment of the Code of Federal Regulations (CFR).

- “Category I non-friable ACM” is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1% asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy (PLM).
- “Category II non-friable ACM” is defined as any material, excluding Category I non-friable ACM, containing more than 1% asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, PLM that, when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.
- “Friable asbestos material” is defined as any material containing more than 1% asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, PLM that when dry, **can** be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10% as determined by a method other than point counting by PLM, verify the asbestos content by point counting using PLM.

3.2 Homogeneous Areas

Prior to sampling, homogeneous areas were identified in order to facilitate a sampling strategy. A homogeneous sampling area can be described as one or more areas with suspect material similar in appearance and texture that have the same installation date and function. The actual number of samples collected from each homogeneous sampling area may vary, dependent upon material type and the professional judgment of the inspector.

3.3 Sampling Strategy

The sampling strategy incorporated Asbestos Hazard Emergency Response Acts (AHERA) requirements, quantities of suspect material, and the inspector’s judgment to aid in the identification of suspect asbestos-containing materials. If the analytical results indicated that all the samples collected per homogeneous area did not contain asbestos, then the homogeneous area (material) was considered non-asbestos-containing. However, if the analytical results of one or more of the samples collected per homogeneous area indicated that asbestos was present in quantities greater than one percent asbestos (as defined by EPA), all of the homogeneous area (material) was treated as an asbestos-containing material regardless of any other analytical results. Materials which were visually determined to be non-asbestos (i.e. fibrous glass, foam rubber, etc.) by the accredited inspector were not required to be sampled. Actual collection of a bulk asbestos sample involves



physically removing approximately one square inch (1 in²) of material and placing it in an airtight sample container. Sample containers were marked with a unique identification number, which was documented in the field notes.

3.4 Laboratory Analytical Results

A total of **52** samples were collected from building materials suspected of containing asbestos. The samples were submitted under chain of custody to EMSL Analytical, Inc. (EMSL) located at 200 Route 130 North in Cinnaminson, New Jersey, for analysis by polarized light microscopy (PLM) with dispersion staining techniques per the *USEPA Method for the Determination of Asbestos in Bulk Building Materials (600/R-93-116)*. The percentage of asbestos, if applicable, was established by microscopic visual estimation. EMSL is an accredited laboratory by the National Voluntary Laboratory Accreditation Plan (NVLAP) No. 101048-0. Any material that contains greater than one percent (>1%) asbestos is considered an ACM and must be handled according to Occupational Safety and Health Administration (OSHA), USEPA, and all applicable state and local regulations.

Laboratory test results are provided in Appendix A.

3.5 Suspect Asbestos-Containing Materials

The following table contains a list of suspect asbestos containing materials sampled:

TABLE 1: SUSPECT ASBESTOS MATERIALS		
Material	Location	Sample Number
Plaster & Skim Coat	Room 305	B-1
Plaster & Skim Coat	Room 300	B-2
Plaster & Skim Coat	Room 304	B-3
Terrazzo Flooring	Room 303	B-4
Popcorn Ceiling Texture	Room 305	B-5
TSI Pipe Insulation	Room 305	B-6
Fiberglass Insulation	Room 305	B-7
Terrazzo Flooring	Room 215	B-8
Popcorn Ceiling Texture	Room 217	B-9
Cove Base	Room 217	B-10
Cove Base Mastic Brown	Room 217	B-11
White Window Sill/Trim Caulk	Room 217A	B-12
Drywall Mud	Room 217A	B-13
Drywall Tape	Room 217A	B-14
Drywall	Room 217A	B-15
Brick Mortar	Room 216	B-16
2' x 2' Ceiling Tile	Room 213B	B-17
Drywall	Room 213B	B-18
Drywall Mud	Room 213B	B-19
Popcorn Ceiling Texture	Room 213B	B-20
Wall Texture	Room 213B	B-21
Cove Base Black	Room 213B	B-22



TABLE 1: SUSPECT ASBESTOS MATERIALS		
Material	Location	Sample Number
Cove Base Mastic Tan	Room 213B	B-23
Cove Base Beige	Room 213A	B-24
Cove Base Mastic Tan	Room 213A	B-25
Cove Base White	Room 213G	B-26
Cove Base Mastic Tan	Room 213G	B-27
HVAC Sealant	Room 210	B-28
Plaster & Skim Coat	Room 231	B-29
TSI Pipe Insulation	Room 212	B-30
Drywall Mud	Room 222A	B-31
Popcorn Ceiling Texture	Room 201	B-32
Drywall Mud	Room 222A	B-33
Window Glazing	Room 201A	B-34
Terrazzo Flooring	Room 206A	B-35
Plaster & Skim Coat	Room 208	B-36
Plaster & Skim Coat	Room 119	B-37
Terrazzo Flooring	Room 119	B-38
Brick Mortar	Room 119	B-39
CMU Mortar	Room 124	B-40
Plaster & Skim Coat	Room 124B	B-41
Plaster & Skim Coat	Room 108A	B-42
Particle Board	Room 105	B-43
Plaster & Skim Coat	Room B17	B-44
TSI Pipe Sealant	Room B12	B-45
Plaster & Skim Coat	Room B29	B-46
Drywall	Room B29	B-47
Plaster & Skim Coat	Room B01	B-48
Terrazzo Flooring	Room B01	B-49
Caulk White	Room B01	B-50
Window Glazing	Exterior NE Window	B-51
Caulk Gray	Exterior NE Window	B-52

The following table is a summary of the suspect asbestos-containing materials that have been determined, through laboratory analysis, to contain asbestos:

TABLE 2: ASBESTOS-CONTAINING MATERIALS				
Sample Number	Material	Location	Approx. Quantity	Asbestos Content
B-6	TSI Pipe Insulation	Room 305 (may be insulated within wall from 2 nd to ground floor)	2 LF	45% Chrysotile
B-12	White Window Sill Caulk	Room 217A	60 LF	6% Chrysotile



TABLE 2: ASBESTOS-CONTAINING MATERIALS				
Sample Number	Material	Location	Approx. Quantity	Asbestos Content
B-51	Window Glazing	Exterior, Windows	195 Windows	5% Chrysotile
B-52	Window Caulk (gray)	Exterior, Windows	195 Windows	10% Chrysotile

SF = Square Feet, LF = Linear Feet

4.0 LEAD PAINT CHIP TESTING

Atlas collected paint chip samples from representative surface coatings that may be impacted by renovation activities.

Surface coatings that were collected were considered to be representative of materials in a homogeneous area if:

1. They exhibited similar physical characteristics (suspect materials alike in appearance, substrate, color, and time of application were tested as homogenous areas)
2. The application of the tested surface could be associated to an application of an unsampled surface.

Atlas collected and submitted a total of **14** paint chip samples from surface coatings. The samples were submitted to EMSL of Cinnaminson, New Jersey, under proper chain of custody for analysis by Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B). EMSL is accredited under the American Industrial Hygiene Association-Laboratory Accreditation Program (AIHA-LAP, LLC) (AIHA-LAP; lab code 100194). A copy of the analytical results and chain of custody can be found in Appendix B.

The USEPA has defined LBP as “*paint or other surface coatings that contain lead in excess of 0.5 percent by weight (>0.5%)*”. Results less than 0.5% by weight indicate that lead is not present at or above the USEPA regulatory level; however, lead may be present in lower concentrations above the laboratory detection limit in other surfaces tested and these are classified as lead-containing paint (LCP). Negative results do not mean that lead is not present.

4.1 Inspection

The disturbance and disposal of materials with surface coatings that contain lead paint are regulated by the USEPA, OSHA and the State of Iowa. The Resource Conservation and Recovery Act (RCRA) provides the USEPA with the authority to regulate the waste status of renovation debris, including lead-containing materials. Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes.

Construction work covered by 29 CFR 1926.62 includes any repair, renovation or other activities that disturb in-place, lead-containing materials, but does not include routine cleaning and



repainting where there is insignificant damage, wear or corrosion of existing lead-containing coatings or substrates. Unless adequately protected, employee exposures to lead must not exceed airborne concentrations >50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) averaged over an 8-hour period.

Occupational exposure to lead occurring in the course of construction work, including maintenance activities, painting, alteration and repairs is subject to the OSHA Lead standard (29 CFR 1926.62). The lead standard applies to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending upon the method of removal and other workplace conditions.

The disposal of lead-based paint waste, as well as paint waste containing other heavy metals, is regulated by the USEPA and State of Iowa. Wastes generated by industrial businesses, commercial businesses, and government institutions are subject to regulation. Commercial business owners and removal contractors are required to determine if paint waste generated from nonresidential structures (such as public and commercial buildings, warehouses, bridges, water towers, and transmission towers) contains heavy metals that would cause the debris to be considered a hazardous waste. Disposal options and applicable management requirements for collected debris will be based upon whether the waste stream is considered a hazardous waste and the amount of debris generated. Removal contractors and building owners need to include these factors when preparing and responding to bid specifications. Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes. Lead-containing wastes are considered hazardous waste under RCRA if Toxicity Characteristic Leachate Procedure (TCLP) results exceed 5 milligrams per liter (mg/L). The USEPA has made exceptions for the handling and disposal of lead wastes generated from residential housing.

Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes. Lead-containing wastes are considered hazardous waste under RCRA if Toxicity Characteristic Leachate Procedure (TCLP) results exceed 5 milligrams per liter (mg/L). The USEPA has made exceptions for the handling and disposal of lead wastes generated from residential housing.

The above overview is not intended to be inclusive of all potentially pertinent regulatory information. The relevant USEPA, OSHA and State of Iowa regulations should be consulted prior to undertaking activities involving the demolition, renovation or maintenance of surface coatings that contain lead.

4.2 Lead Paint Testing

The following surface coatings were collected as part of the lead paint testing:

TABLE 3: LEAD PAINT SUMMARY				
Sample Number	Sample Location	Representative Material	Paint Color	Lead Concentration (% by weight)
PCB-1	Room 301 Radiator	Metal	Teal	0.42



TABLE 3: LEAD PAINT SUMMARY				
Sample Number	Sample Location	Representative Material	Paint Color	Lead Concentration (% by weight)
PCB-2	Room 304 Radiator	Metal	Yellow	0.49
PCB-3	Room 300	Plaster	Yellow	0.14
PCB-4	Room 303	Plaster	Green	0.46
PCB-5	Room 305	Plaster	Blue-Green	0.64
PCB-6	Room 217	Plaster	Cream-Tan	0.013
PCB-7	Room 213D	Plaster	White	0.046
PCB-8	Room 216 Drain Pipe	Metal	White	0.26
PCB-9	Room 213E	Metal	White	<0.008
PCB-10	Room 201A	Plaster	Blue	<0.008
PCB-11	Room 115	Plaster	Lt Blue	0.26
PCB-12	Room 117	Plaster	Yellow	0.29
PCB-13	Room 112	Plaster	Lt Purple	0.043
PCB-14	Room 108 Door Frame	Metal	Silver	0.026
PCB-15	Exterior, Window Lintels and Mullions	Metal	White	10

bolded = lead-based paint

This evaluation report can help the Owner develop a plan for renovating the building by having concentrations of lead in the paint identified. It is our understanding that the information in this report will be provided to the contractors so that appropriate precautions can be made to minimize worker exposure to lead. If surface coatings with lead containing paint are handled improperly, exposure could occur to workers and future occupants of the facility.

5.0 HAZARDOUS MATERIALS ASSESSMENT

Atlas completed a visual inspection of rooms / areas throughout the intended work areas in an attempt to identify hazardous wastes or universal wastes that may be impacted by planned renovation activities. The survey included a visual inspection of: light fixtures and other equipment for the presence of Polychlorinated Biphenyls (PCBs); light bulbs, thermostats, switches, and other equipment for the presence of mercury; refrigerants, batteries, and devices with potential radioactive materials.

TABLE 4: HAZARDOUS BUILDING MATERIALS		
Category	Material	Estimated Quantity
Batteries	Lead Acid	NA



TABLE 4: HAZARDOUS BUILDING MATERIALS		
Category	Material	Estimated Quantity
	Nickel Cadmium	16 (exit signs)
	Lithium-Ion	NA
Mercury	Thermostats	NA
	Fluorescent Light Tubes	336
	High Intensity Discharge Bulbs	NA
	Strobes	NA
Poly-Chlorinated Biphenyl (PCBs)	Light Ballasts	NA
	Transformers	NA
Low Level Radioactive Sources (LLR)	Tritium Exit Signs	NA
	Smoke Detectors	137
Chlorofluorocarbons (CFCs) or Hydro Chlorofluorocarbons (HCFCs)	Refrigerator/Cooler	NA
	Freezer	NA
	Water Fountain	NA

6.0 CONCLUSIONS

6.1 Asbestos

The NESHAP and OSHA regulations govern the removal of ACM. Atlas recommends that a State of Iowa certified abatement contractor be retained to properly abate and dispose of ACM identified in Table 1 above and in accordance with local, state, and federal regulations.

The owner and/or operator are responsible for NESHAP regulatory compliance regarding the proper removal, handling, and disposal of ACM containing >1% asbestos prior to renovation or demolition. Also, per state regulations, please be aware that the owner and/or operator must submit a notification to the Iowa Department of Natural Resources (IDNR) 10-business days prior to asbestos abatement at certain quantity thresholds and prior to renovation/demolition activities.

6.2 Lead

Lead was identified above the laboratory detection limit in 12 of the 15 surface coatings tested.

Contractors should use caution during construction-related activities as concealed surface coatings containing lead paints that were not previously tested may be encountered. If materials not sampled during this investigation are later identified to contain regulated quantities of lead concentrations, then they should be removed, controlled and/or disposed in accordance with



federal, state and local regulations, prior to disturbance. OSHA considers any detectable level of lead as LCP and disturbance of these surface coatings is subject to the training and work practices in OSHA 29 CFR 1926.62 “Lead in Construction”.

6.3 Hazardous Building Materials

Hazardous materials or universal wastes identified in Table 4 that will be impacted by renovation activities shall be removed as part of the renovation contractor’s scope of work and disposed of according to USEPA Toxic Substances Control Act (TSCA) and the State of Iowa regulations.

7.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based solely on conditions noted during the September 25 and November 20, 2024, Atlas hazardous building materials survey of the Woodward Resource Center – Birches Building in Woodward, Iowa.

Atlas did not perform destructive sampling -- it was not within Atlas’s scope of work to remove surface materials to investigate portions of the structure or materials that may lay beneath the surface -- thus, any materials that could not be visually identified on the surface were not inspected and would not be noted in this report. Atlas’s selection of sample locations and frequency of sampling was based on the inspector’s assumption that like materials in the same area are homogeneous in content.

The report is designed to aid the building owner, architect, construction manager, general contractor, and potential abatement contractor in locating hazardous building materials. Under no circumstances is the report to be utilized as a bidding document or as a project specification document since it does not have all the components required to serve as a Project Design document or an Abatement Work plan.

Our professional services have been performed, our findings obtained, and our conclusions and recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

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

Atlas recommendations are based in part on federal, state, local regulations, and guidelines. Atlas does not undertake responsibility for reporting to any local, state, or federal public agencies of conditions at the site that may present a potential danger to public health or safety. Atlas recommends that the Client comply with regulations and response actions in accordance with federal, state, and local regulations.

APPENDIX A

ASBESTOS ANALYTICAL RESULTS AND CHAIN OF CUSTODY



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order: 042420594

Customer ID: ATC55

Customer PO:

Project ID:

Attention: Eric Brown
Atlas Technical
11117 Mockingbird Drive
Omaha, NE 68137

Phone: (402) 697-9747

Fax: (402) 597-8532

Received Date: 10/03/2024 11:40 AM

Analysis Date: 10/07/2024 - 10/08/2024

Collected Date: 09/23/2024

Project: 204BS07475 / Birches / Tunnel Survey Woodward

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-1-Plaster <small>042420594-0001</small>	3rd Floor - Rm 305 - Plaster	Gray Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
B-1-Skim Coat <small>042420594-0001A</small>	3rd Floor - Rm 305 - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-2-Plaster <small>042420594-0002</small>	3rd Floor - Rm 300 - Plaster	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-2-Skim Coat <small>042420594-0002A</small>	3rd Floor - Rm 300 - Skim Coat	White/Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-3-Plaster <small>042420594-0003</small>	3rd Floor - Rm 304 - Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-3-Skim Coat <small>042420594-0003A</small>	3rd Floor - Rm 304 - Skim Coat	White/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-4 <small>042420594-0004</small>	3rd Floor - Rm 303 - Terrazzo Floor	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-5 <small>042420594-0005</small>	3rd Floor - Rm 305 - Popcorn Ceiling	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-6 <small>042420594-0006</small>	3rd Floor - Rm 305 - Pipe Insulation	White Fibrous Homogeneous		55% Non-fibrous (Other)	45% Chrysotile
B-7 <small>042420594-0007</small>	3rd Floor - Rm 305 - Fiberglass Insulation	Yellow/Orange Fibrous Homogeneous	95% Glass	5% Non-fibrous (Other)	None Detected
B-8 <small>042420594-0008</small>	2nd Floor - Rm 215 - Terrazzo Floor	Gray/Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-9 <small>042420594-0009</small>	2nd Floor - Rm 217 - Popcorn Ceiling	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-10 <small>042420594-0010</small>	2nd Floor - Rm 217 - Cove Base	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-11 <small>042420594-0011</small>	2nd Floor - Rm 217 - Brown Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-12 <small>042420594-0012</small>	2nd Floor - Rm 217A - White Caulk	Tan/White Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
B-13 <small>042420594-0013</small>	2nd Floor - Rm 217A - Drywall Mud	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 10/08/2024 09:14:51



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order: 042420594

Customer ID: ATC55

Customer PO:

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-14 042420594-0014	2nd Floor - Rm 217A - Drywall Tape	Tan Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
B-15 042420594-0015	2nd Floor - Rm 217A - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose 3% Glass	82% Non-fibrous (Other)	None Detected
B-16 042420594-0016	2nd Floor - Rm 216 - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-17 042420594-0017	2nd Floor - Rm 213B - 2x2 Ceiling Tile	Tan/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	5% Perlite 15% Non-fibrous (Other)	None Detected
B-18 042420594-0018	2nd Floor - Rm 213B - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
B-19 042420594-0019	2nd Floor - Rm 213B - Drywall Mud	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-20 042420594-0020	2nd Floor - Rm 213B - Popcorn Ceiling	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-21 042420594-0021	2nd Floor - Rm 213B - Wall Texture	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-22 042420594-0022	2nd Floor - Rm 213B - Black Cove Base	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-23 042420594-0023	2nd Floor - Rm 213B - Tan Cove Base Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-24 042420594-0024	2nd Floor - Rm 213A - Beige Cove Base	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-25 042420594-0025	2nd Floor - Rm 213A - Tan Cove Base Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-26 042420594-0026	2nd Floor - Rm 213G - White Cove Base	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-27 042420594-0027	2nd Floor - Rm 213G - Tan Cove Base Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-28 042420594-0028	2nd Floor - Rm 210 - HVAC Sealant	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-29-Plaster 042420594-0029	2nd Floor - Rm 231 - Plaster	Brown Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
B-29-Skim Coat 042420594-0029A	2nd Floor - Rm 231 - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-30-Insulation 042420594-0030	2nd Floor - Rm 212 - Pipe Insulation	Yellow Fibrous Homogeneous	95% Glass	5% Non-fibrous (Other)	None Detected
B-30-Sealant 042420594-0030A	2nd Floor - Rm 212 - Sealant	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 10/08/2024 09:14:51



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order: 042420594
Customer ID: ATC55
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-31 042420594-0031	2nd Floor - Rm 22A - Drywall Mud	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-32 042420594-0032	2nd Floor - Rm 201 - Popcorn Ceiling	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-33 042420594-0033	2nd Floor - Rm 201A - Drywall Mud	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-34 042420594-0034	2nd Floor - Rm 201A - Window Glazing	Tan/White Non-Fibrous Homogeneous	6% Fibrous (Other)	94% Non-fibrous (Other)	None Detected
B-35 042420594-0035	2nd Floor - Rm 206A - Terrazzo Flooring	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-36-Plaster 042420594-0036	2nd Floor - Rm 208 - Plaster	Gray Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
B-36-Skim Coat 042420594-0036A	2nd Floor - Rm 208 - Skim Coat	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-37-Plaster 042420594-0037	1st Floor - Rm 119 - Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-37-Skim Coat 042420594-0037A	1st Floor - Rm 119 - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-38 042420594-0038	1st Floor - Rm 119 - Terrazzo Flooring	Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-39 042420594-0039	1st Floor - Rm 119 - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-40 042420594-0040	1st Floor - Rm 124 - CMU Mortar	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-41-Plaster 042420594-0041	1st Floor - Rm 124B - Plaster	Brown Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
B-41-Skim Coat 042420594-0041A	1st Floor - Rm 124B - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-42-Plaster 042420594-0042	1st Floor - Rm 108A - Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-42-Skim Coat 042420594-0042A	1st Floor - Rm 108A - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-43 042420594-0043	1st Floor - Rm 105 - Particle Board	Brown/Gray Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
B-44-Plaster 042420594-0044	Basement - B17 - Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-44-Skim Coat 042420594-0044A	Basement - B17 - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 10/08/2024 09:14:51



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order: 042420594
Customer ID: ATC55
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-45-Sealant <i>042420594-0045</i>	Basement - B12 - Pipe Sealant	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-45-Insulation <i>042420594-0045A</i>	Basement - B12 - Pipe Sealant	Yellow Fibrous Homogeneous	95% Glass	5% Non-fibrous (Other)	None Detected
B-46-Plaster <i>042420594-0046</i>	Basement - B29 - Plaster	Brown/Gray Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
B-46-Skim Coat <i>042420594-0046A</i>	Basement - B29 - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-47 <i>042420594-0047</i>	Basement - B29 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
B-48-Plaster <i>042420594-0048</i>	Basement - B01 - Plaster	Brown Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
B-48-Skim Coat <i>042420594-0048A</i>	Basement - B01 - Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-49 <i>042420594-0049</i>	Basement - B01 - Terrazzo Flooring	Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-50 <i>042420594-0050</i>	Basement - B01 - White Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-51 <i>042420594-0051</i>	Exterior - NE Window - Window Glazing	White Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
B-52 <i>042420594-0052</i>	Exterior - NE Window - Gray Caulk	Brown/Gray Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile

Analyst(s) _____

Hunter Kelly (57)

Amy Schulze (8)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This 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. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, PA ID# 68-00367, LA #04127

Initial report from: 10/08/2024 09:14:51



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042420594

EMSL Analytical, Inc.

Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
EMAIL: c@emsl.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name:	Billing Contact: Steve Hudson
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha NE 68137 Country: US	City, State, Zip: Omaha NE 68137 Country: US
	Phone: 402-697-9747	Phone: 402-697-9747
Email(s) for Report: eric.l.brown@oneatlas.com	Email(s) for Invoice:	

Project Name/No: TUNNEL SURVEY WARDWARD 204 B507475		Purchase Order:
EMSL LIMS Project ID:	US State where samples collected: IA	State of Connecticut (CT) must select project location:
	<input type="checkbox"/> Commercial (Taxable)	<input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: ERIC BROWN	Sampled By Signature: Eric Brown	No. of Samples in Shipment: 52

Turn-Around-Time (TAT)

3 Hour
 4-4.5 Hour
 6 Hour
 24 Hour
 32 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

<p>PCM Air</p> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA <p>PLM - Bulk (reporting limit)</p> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT: <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)	<p>TEM - Air</p> <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312* <p>TEM - Bulk</p> <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (Non-Friable-NY) <input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%)	<p>TEM - Settled Dust</p> <input type="checkbox"/> Microvac - ASTM D5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Qualitative via Filtration Prep <input type="checkbox"/> Qualitative via Drop Mount Prep <p>Soil - Rock - Vermiculite (reporting limit)*</p> <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep
--	---	--

Other Test (please specify)

*Please call with your project-specific requirements.

Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) 0.8um 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
	See the other sheets		

RECEIVED
EMSL
CINNAMINSON, NJ
20 OCT - 3 AM 11:41

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment:	Sample Condition Upon Receipt:
Relinquished by: Eric Brown Date/Time: 10/3/24 17:00	Received by: [Signature] Date/Time: 10/3/24 11:40
Relinquished by:	Received by:

Controlled Document - GOC-05 Asbestos R15 4/23/2021 AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Page 1 of (52) PSA

MM 20 594

ASBESTOS BULK SAMPLE FORM

Page 1 of 4



11117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747
Fax (402) 597-8532

Project Information

Client:	Project Description:	Project Manager: SK Inspector: EB
Date: 9/23/24	Site Location: ↑ Birches WOODWARD	ATLAS PROJECT NUMBER: 204BS07475

Sample #	Material Description	Floor	Sample Location	Quantity
B-1	Plaster + Skim coat	3rd	Rm 305	
B-2	Plaster + Skim coat	3rd	Rm 300	
B-3	Plaster + Skim coat	3rd	Rm 304	
B-4	terrazzo floor	3rd	Rm 303	
B-5	Popcorn ceiling	3rd	Rm - 305	
B-6	Pipe rock insulation	3rd	Rm - 305	2LF
B-7	Fiberglass insulation	3rd	Rm - 305	
B-8	terrazzo floor	2nd	Rm - 215	
B-9	Popcorn Ceiling	2nd	Rm - 217	
B-10	Cove base	2nd	Rm - 217	
B-11	Brown mastic	2nd	Rm - 217	
B-12	White Caulk	2nd	Rm - 217A	
B-13	Drywall mud	2nd	Rm - 217A	

RECEIVED
 EHS
 CANNAMINSON, NJ
 24 OCT -3 AM 11:41

042420594

ASBESTOS BULK SAMPLE FORM

Page 2 of 4



11117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747
Fax (402) 597-8532

Project Information

Client:	Project Description:	Project Manager: <i>SM</i> Inspector: <i>EB</i>
Date: <i>9/23/24</i>	Site Location: <i>Birches</i> [↑] <i>WOODWARD</i>	ATLAS PROJECT NUMBER: <i>2048507475</i>

Sample #	Material Description	Floor	Sample Location	Quantity
B-14	Drywall tape	2nd	Rm 217A	
B-15	Drywall	2nd	Rm 217A	
B-16	XXXXXX ^{Brick} Mortar	2nd	Rm 216	
B-17	2x2 Ceilings tile	2nd	Rm- 213B	
B-18	Drywall	2nd	Rm - 213B	
B-19	Drywall mud	2nd	Rm- 213B	
B-20	Popcorn Ceiling	2nd	Rm 213B	
B-21	Wall texture	2nd	Rm 213B	
B22	Cove Base - Black	2nd	Rm 213B	
B23	Cove Base Mastic-tan	2nd	Rm 213B	
B24	Cove Base - Beige	2nd	213A	
B25	Cove Base Mastic-tan	2nd	213A	
B26	Cove Base - White	2nd	213G	

24 OCT - 3 AM 11:41
 RECEIVED
 EMSL
 CINCINNATI, OH, NJ

MM 20594

ASBESTOS BULK SAMPLE FORM



11117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747
Fax (402) 597-8532

Project Information

Client:	Project Description:	Project Manager: Inspector: EB
Date: 9/27/14	Site Location: Birches ^{WOODWARD}	ATLAS PROJECT NUMBER: 204BS67475

Sample #	Material Description	Floor	Sample Location	Quantity
B27	Cove base mastic-tan	2nd	213G	
B28	HVAC Sealant	2nd	210	
B29	Plaster & Skim coat	2nd	231	
B30	Pipe insulation	2nd	212	
B31	Drywall mud	2nd	206A 222A	
B32	Popcorn ceiling	2nd	207	
B33	Drywall mud	2nd	201A	
B34	Window Glazing	2nd	207A	
B35	terrazzo Flooring	2nd	206A	
B36	Plaster & Skim coat	2nd	208	
B37	Plaster & Skim coat	1st	119	
B38	terrazzo Flooring	1st	119	
B39	Brick Mortar	1st	119	

RECEIVED
 ERNST
 CHINAMINSON, NJ
 24 OCT -3 AM 11:41

09/24/20 594

ASBESTOS BULK SAMPLE FORM

Page 4 of 4



11117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747
Fax (402) 597-8532

Project Information

Client:	Project Description:	Project Manager: Inspector: EB
Date: 9/23/24	Site Location: ↑ Birches WOODWARD	ATLAS PROJECT NUMBER: 2648507475

Sample #	Material Description	Floor	Sample Location	Quantity
B40	CMU Mortar	1st	124	
B41	Plaster + Skim coat	1st	124B	
B42	Plaster + Skim Coat	1st	108A	
B43	Particle Board	1st	105	
B44	Plaster + Skim Coat	B	B17	
B45	Pipe - Sealant	B	B12	
B46	Plaster + Skim coat	B	B29	
B47	Drywall	B	B29	
B48	Plaster + Skim coat	B	B01	
B49	Terrazzo Floor	B	B02	
B50	White Caulk	B	B02	
B51	Window Glazing	E	NE window	
B52	Grey Caulk	E	NE Window	

RECEIVED
 EMSL
 CINNAMINSON, NJ
 24 OCT -3 AM 11:41

APPENDIX B

LEAD PAINT ANALYTICAL RESULTS AND CHAIN OF CUSTODY

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
 Telephone: 856-858-4800 Fax:856-786-5974
 EMSL-CIN-01

EMSL Order ID: 012432420
LIMS Reference ID: AC32420
EMSL Customer ID: ATC55

Attention: Steve Hudson
 Atlas Technical [ATC55]
 11117 Mockingbird Drive
 Omaha, NE 68137
 (402) 697-9747
 steve.hudson@oneatlas.com

Project Name: Woodward Tunnel Survey 204BS07475
Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 10/03/2024 10:00
Reported: 10/04/2024 15:45

Analytical Results

Analyte	Results	RL	Weight(g)	Prep Date & Tech	Prep Method	Analysis Date & Analyst	Analytical Method	Q	DF
Client Sample ID: PCB-1/Room 301 Radiator - Metal - Teal							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-01		
Lead	0.42 % wt	0.037 % wt	0.2698	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	D	5
Sample Comments:									
Client Sample ID: PCB-2/Room 304 Radiator - Metal - Yellow							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-02		
Lead	0.49 % wt	0.035 % wt	0.2879	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	D	5
Sample Comments:									
Client Sample ID: PCB-3/Room 300 - Plaster - Yellow							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-03		
Lead	0.14 % wt	0.008 % wt	0.2555	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B		1
Sample Comments:									
Client Sample ID: PCB-4/Room 303 - Plaster - Green							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-04		
Lead	0.46 % wt	0.039 % wt	0.2537	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	D	5
Sample Comments:									
Client Sample ID: PCB-5/Room 305 - Plaster - Blue-Green							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-05		
Lead	0.64 % wt	0.038 % wt	0.2611	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	D	5
Sample Comments:									
Client Sample ID: PCB-6/Room 217 - Plaster - Cream/Tan							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-06		
Lead	0.013 % wt	0.008 % wt	0.2933	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B		1
Sample Comments:									
Client Sample ID: PCB-7/Room 213D - Plaster - White							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-07		
Lead	0.046 % wt	0.008 % wt	0.2699	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B		1
Sample Comments:									
Client Sample ID: PCB-8/Room 216 Drain Pipe - Metal - White							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-08		
Lead	0.26 % wt	0.008 % wt	0.2734	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B		1
Sample Comments:									
Client Sample ID: PCB-9/Room 213E - Metal - White							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-09		
Lead	<0.008 % wt	0.008 % wt	0.253	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B		1
Sample Comments:									

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
 Telephone: 856-858-4800 Fax:856-786-5974
 EMSL-CIN-01

EMSL Order ID: 012432420
LIMS Reference ID: AC32420
EMSL Customer ID: ATC55

Attention: Steve Hudson
 Atlas Technical [ATC55]
 11117 Mockingbird Drive
 Omaha, NE 68137
 (402) 697-9747
 steve.hudson@oneatlas.com

Project Name: Woodward Tunnel Survey 204BS07475
Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 10/03/2024 10:00
Reported: 10/04/2024 15:45

Analytical Results (Continued)

Analyte	Results	RL	Weight(g)	Prep Date & Tech	Prep Method	Analysis Date & Analyst	Analytical Method	Q	DF
Client Sample ID: PCB-10/Room 201A - Plaster - Blue							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-10		
Lead	<0.008 % wt	0.008 % wt	0.2587	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	1	
Sample Comments:									
Client Sample ID: PCB-11/Room 115 - Plaster - Lt. Blue							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-11		
Lead	0.26 % wt	0.012 % wt	0.1655	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	1	
Sample Comments:									
Client Sample ID: PCB-12/Room 117 - Plaster - Yellow							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-12		
Lead	0.29 % wt	0.008 % wt	0.2747	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	1	
Sample Comments:									
Client Sample ID: PCB-13/Room 112 - Plaster - Lt. Purple							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-13		
Lead	0.043 % wt	0.008 % wt	0.2743	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	1	
Sample Comments:									
Client Sample ID: PCB-14/Room 108 Door Frame - Metal - Silver							Date Sampled: 09/23/24		
Matrix: Chips							LIMS Reference ID: AC32420-14		
Lead	0.026 % wt	0.008 % wt	0.2659	10/04/24 KD1	SW-846 3050B	10/04/24 PMX	SW846-7000B	1	
Sample Comments:									

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
 Telephone: 856-858-4800 Fax:856-786-5974
 EMSL-CIN-01

EMSL Order ID: 012432420
LIMS Reference ID: AC32420
EMSL Customer ID: ATC55

Attention: Steve Hudson
 Atlas Technical [ATC55]
 11117 Mockingbird Drive
 Omaha, NE 68137
 (402) 697-9747
 steve.hudson@oneatlas.com

Project Name: Woodward Tunnel Survey 204BS07475
Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 10/03/2024 10:00
Reported: 10/04/2024 15:45

Certified Analyses included in this Report

Analyte	Certifications
SW846-7000B in Chips	
Lead	AIHA LAP

List of Certifications

Code	Description	Number	Expires
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2025
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
NYSDOH	New York State Department of Health	10872	04/01/2025
California ELAP	California Water Boards	1877	06/30/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2026
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2024
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2025
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2026

Please see the specific Field of Testing (FOT) on www.emsl.com for a complete listing of parameters for which EMSL is certified.

Notes and Definitions

Item	Definition
D	Analyte was reported from a dilution run.
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
NR	Spike/Surrogate showed no recovery.
Q	Qualifier
RL	Reporting Limit For paint chips, the RL is 0.008% by wt. (equiv. to 80 mg/kg, or ppm) based upon a minimum sample weight of 0.25 grams. For soils, the RL is 40 mg/kg (ppm) based upon a minimum sample weight of 0.5 grams. For dust wipes, the RL is 10 µg/wipe; reporting units of µg/sq. ft. are not validated by the lab based upon data provided by non-lab personnel.
Wet	Sample is not dry weight corrected.

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.



EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012432420
LIMS Reference ID: AC32420
EMSL Customer ID: ATC55

Attention: Steve Hudson
Atlas Technical [ATC55]
11117 Mockingbird Drive
Omaha, NE 68137
(402) 697-9747
steve.hudson@oneatlas.com

Project Name: Woodward Tunnel Survey 204BS07475

Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 10/03/2024 10:00
Reported: 10/04/2024 15:45

Owen McKenna Laboratory Manager or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. QC sample results are within quality control criteria and met method specifications unless otherwise noted. All results for soil samples are reported on a dry weight basis, unless otherwise noted.

Analysis following EMSL SOP for the Determination of Environmental Lead by FLAA. The laboratory has a reporting limit of 0.008% by wt., based upon a minimum sample weight of 0.25g submitted to the lab, and is not responsible for any result or reporting limit provided in mg/cm² since it is dependent upon an area value provided by non-lab personnel. A "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty and definitions of modifications are available upon request. Results in this report are not blank corrected unless specified.



Lead Chain of Custody

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

AC32420

PHONE: (800) 220-3675

EMAIL: CinnaminsonLeadLab@emsl.com

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name: Steve Hudson	Billing Contact: Steve Hudson
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha, NE, 68137 Country: USA	City, State, Zip: Omaha, NE, 68137 Country: USA
	Phone: 402-697-9747	Phone: 402-697-9747
Email(s) for Report: steve.hudson@oneatlas.com		Email(s) for Invoice:

Project Information		
Project Name/No: <u>WOODWARD TUNNEL SURVEY</u>	<u>204B507475</u>	Purchase Order:
EMSL LIMS Project ID: (If applicable, EMSL will provide)	US State where samples collected: <u>IA</u>	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: <u>ERIC BROWN</u>	Sampled By Signature: <u>[Signature]</u>	No. of Samples in Shipment: <u>14</u>

Turn-Around-Time (TAT)

3 Hour
 6 Hour
 24 Hour
 32 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
CHIPS <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/lcm <small>*Reporting Limit based on a minimum 0.25g sample weight. **Not appropriate for Ceramic Tiles - XRF is recommended</small>	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	<input checked="" type="checkbox"/>
	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	<input type="checkbox"/>
AIR	NIOSH 7082 +	Flame Atomic Absorption	4µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-OES	1.0µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-MS	0.05µg/filter	<input type="checkbox"/>
WIPE <input type="checkbox"/> ASTM <input type="checkbox"/> NON-ASTM <small>*If no box is checked, non-ASTM Wipe is assumed</small>	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	1.0µg/wipe	<input type="checkbox"/>
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTLC	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>				
Preserved with HNO3 <input type="checkbox"/> PH<2	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Drinking Water	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>				
Preserved with HNO3 <input type="checkbox"/> PH<2	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
	<u>300 ORIGINAL SHEETS</u>		

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by: <u>[Signature]</u>	Date/Time: <u>10/3/24 17:00</u>	Received by: <u>RJA EFX</u>	Date/Time: <u>10/3/24 10AM</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:

AC32420

PAINT CHIP SAMPLE LOG SHEET

Page 1 of 211117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747

Project Information

Client:	Project Description: BIRCHES	Project Manager: SH Inspector: LB
Date: 9/23/24	Site Location: WOODWARD	ATLAS PROJECT NUMBER: 204BS07475

Sample #	Paint Color	Substrate	Sample Location	Quantity
PCB-1	TEAL	METAL	Room 301 RADIATOR	
PCB-2	YELLOW	METAL	Room 304 RADIATOR	
PCB-3	YELLOW	PLASTER	Room 300	
PCB-4	GREEN	PLASTER	Room 303	
PCB-5	BLUE-GREEN	PLASTER	Room 305	
PCB-6	CREAM/TAN	PLASTER	Room 217	
PCB-7	WHITE	PLASTER	Room 213D	
PCB-8	WHITE	METAL	Room 216 DRAIN PIPE	
PCB-9	TAN	PLASTER	Room 213E	
PCB-10	BLUE	PLASTER	Room 201A	



Lead Chain of Custody

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

AC32420

PHONE: (800) 220-3675

EMAIL: CinnaminsonLeadLab@emsl.com

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name: Steve Hudson	Billing Contact: Steve Hudson
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha, NE, 68137 Country: USA	City, State, Zip: Omaha, NE, 68137 Country: USA
Phone: 402-697-9747	Phone: 402-697-9747	
Email(s) for Report: steve.hudson@oneatlas.com	Email(s) for Invoice:	

Project Information

Project Name/No: WOODWARD TUNNEL SURVEY 2040507475 Purchase Order:

EMSL LIMS Project ID: (If applicable, EMSL will provide) US State where samples collected: IA State of Connecticut (CT) must select project location: Commercial (Taxable) Residential (Non-Taxable)

Sampled By Name: ERIC BROWN Sampled By Signature: [Signature] No. of Samples in Shipment: 14

Turn-Around-Time (TAT)

3 Hour 6 Hour 24 Hour 32 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
CHIPS <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/cm ² <small>*Reporting Limit based on a minimum 0.25g sample weight. **Not appropriate for Ceramic Tiles - XRF is recommended</small>	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	<input checked="" type="checkbox"/>
	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	<input type="checkbox"/>
AIR	NIOSH 7082 *	Flame Atomic Absorption	4µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-OES	1.0µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-MS	0.05µg/filter	<input type="checkbox"/>
WIPE <input type="checkbox"/> ASTM <input type="checkbox"/> NON-ASTM *If no box is checked, non-ASTM Wipe is assumed	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	1.0µg/wipe	<input type="checkbox"/>
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTLC	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
Wastewater Unpreserved <input type="checkbox"/> Preserved with HNO3 <input type="checkbox"/> PH<2	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Drinking Water Unpreserved <input type="checkbox"/> Preserved with HNO3 <input type="checkbox"/> PH<2	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
	<u>300 OTHER SHEETS</u>		

Method of Shipment: _____ Sample Condition Upon Receipt: _____

Relinquished by: [Signature] Date/Time: 10/3/24 17:00 Received by: RJA EFX Date/Time: 10/3/24 10AM

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

AC32420

PAINT CHIP SAMPLE LOG SHEET

Page 1 of 211117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747

Project Information

Client:	Project Description: BIRCHES	Project Manager: SH Inspector: LB
Date: 9/23/24	Site Location: WOODWARD	ATLAS PROJECT NUMBER: 204BS07475

Sample #	Paint Color	Substrate	Sample Location	Quantity
PCB-1	TEAL	METAL	Room 301 RADIATOR	
PCB-2	YELLOW	METAL	Room 304 RADIATOR	
PCB-3	YELLOW	PLASTER	Room 300	
PCB-4	GREEN	PLASTER	Room 303	
PCB-5	BLUE-GREEN	PLASTER	Room 305	
PCB-6	CREAM/TAN	PLASTER	Room 217	
PCB-7	WHITE	PLASTER	Room 213D	
PCB-8	WHITE	METAL	Room 216 DRAIN PIPE	
PCB-9	TAN	PLASTER	Room 213E	
PCB-10	BLUE	PLASTER	Room 201A	



EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012438017
LIMS Reference ID: AC38017
EMSL Customer ID: ATC55

Attention: Steve Hudson
Atlas Technical [ATC55]
11117 Mockingbird Drive
Omaha, NE 68137
(402) 697-9747
steve.hudson@oneatlas.com

Project Name: Woodward Tunnels // 204BS07475

Customer PO:
EMSL Sales Rep: Anthony DeRosa

Received: 11/22/2024 10:00
Reported: 11/27/2024 11:00

Analytical Results

Analyte	Results	RL	Weight(g)	Prep Date & Tech	Prep Method	Analysis Date & Analyst	Analytical Method	Q	DF
Client Sample ID: PCB - 15/Window Lintel and Mullions White							Date Sampled: 11/20/24		
Matrix: Chips							LIMS Reference ID: AC38017-01		
Lead	10 % wt	0.78 % wt	0.2571	11/25/24 KD1	SW-846 3050B	11/26/24 PMX	SW846-7000B	D	100
Sample Comments:									

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
 Telephone: 856-858-4800 Fax:856-786-5974
 EMSL-CIN-01

EMSL Order ID: 012438017
LIMS Reference ID: AC38017
EMSL Customer ID: ATC55

Attention: Steve Hudson
 Atlas Technical [ATC55]
 11117 Mockingbird Drive
 Omaha, NE 68137
 (402) 697-9747
 steve.hudson@oneatlas.com

Project Name: Woodward Tunnels // 204BS07475

Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 11/22/2024 10:00
Reported: 11/27/2024 11:00

Certified Analyses included in this Report

Analyte	Certifications
SW846-7000B in Chips	
Lead	AIHA LAP

List of Certifications

Code	Description	Number	Expires
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2025
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
NYSDOH	New York State Department of Health	10872	04/01/2025
California ELAP	California Water Boards	1877	06/30/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2026
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2025
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2025
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2026

Please see the specific Field of Testing (FOT) on www.emsl.com for a complete listing of parameters for which EMSL is certified.

Notes and Definitions

Item	Definition
D	Analyte was reported from a dilution run.
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
NR	Spike/Surrogate showed no recovery.
Q	Qualifier
RL	Reporting Limit For paint chips, the RL is 0.008% by wt. (equiv. to 80 mg/kg, or ppm) based upon a minimum sample weight of 0.25 grams. For soils, the RL is 40 mg/kg (ppm) based upon a minimum sample weight of 0.5 grams. For dust wipes, the RL is 10 µg/wipe; reporting units of µg/sq. ft. are not validated by the lab based upon data provided by non-lab personnel.
Wet	Sample is not dry weight corrected.

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.



EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012438017
LIMS Reference ID: AC38017
EMSL Customer ID: ATC55

Attention: Steve Hudson
Atlas Technical [ATC55]
11117 Mockingbird Drive
Omaha, NE 68137
(402) 697-9747
steve.hudson@oneatlas.com

Project Name: Woodward Tunnels // 204BS07475

Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 11/22/2024 10:00
Reported: 11/27/2024 11:00

Owen McKenna Laboratory Manager or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. QC sample results are within quality control criteria and met method specifications unless otherwise noted. All results for soil samples are reported on a dry weight basis, unless otherwise noted.

Analysis following EMSL SOP for the Determination of Environmental Lead by FLAA. The laboratory has a reporting limit of 0.008% by wt., based upon a minimum sample weight of 0.25g submitted to the lab, and is not responsible for any result or reporting limit provided in mg/cm² since it is dependent upon an area value provided by non-lab personnel. A "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty and definitions of modifications are available upon request. Results in this report are not blank corrected unless specified.



Lead Chain of Custody

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

AC 38017

RECEIVED
EMSL
CINNAMINSON, N.J.
NOV 22 P 12:12

PHONE: (800) 220-3675

EMAIL: CinnaminsonLeadLab@emsl.com

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name: Steve Hudson	Billing Contact: Steve Hudson
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha, NE, 68137 Country: USA	City, State, Zip: Omaha, NE, 68137 Country: USA
Phone: 402-697-9747	Phone: 402-697-9747	
Email(s) for Report: steve.hudson@oneatlas.com	Email(s) for Invoice:	

Project Information		
Project Name/No: WOODWARD TUNNELS 2093507475	Purchase Order:	
EMSL LIMS Project ID: (If applicable, EMSL will provide)	US State where samples collected: IA	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: ERI C BROWN	Sampled By Signature: Eric Brown	No. of Samples in Shipment: 1

Turn-Around-Time (TAT)

3 Hour
 6 Hour
 24 Hour
 32 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
CHIPS <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/cm ² <small>*Reporting Limit based on a minimum 0.25g sample weight. **Not appropriate for Ceramic Tiles - XRF is recommended</small>	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	<input checked="" type="checkbox"/>
	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	<input type="checkbox"/>
AIR	NIOSH 7082	Flame Atomic Absorption	4µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-OES	1.0µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-MS	0.05µg/filter	<input type="checkbox"/>
WIPE <input type="checkbox"/> ASTM <input type="checkbox"/> NON-ASTM *If no box is checked, non-ASTM Wipe is assumed	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	1.0µg/wipe	<input type="checkbox"/>
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTLIC	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Preserved with HNO ₃ <input type="checkbox"/> PH<2	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
Drinking Water	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
Preserved with HNO ₃ <input type="checkbox"/> PH<2				<input type="checkbox"/>
TSP/SPM Filter				<input type="checkbox"/>
Other:				<input type="checkbox"/>

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
PCB-15	WINDOW LINTEL AND MULLIONS WHITE		11/20/24

Method of Shipment:	Sample Condition Upon Receipt:
Relinquished by: Eric Brown	Received by: [Signature] EFX
Date/Time: 11/21/24 17:00	Date/Time: 11-22-24 10am
Relinquished by:	Received by:
Date/Time:	Date/Time:

Controlled Document - COG-25 Lead R18 04/04/2024 *6010C Available Upon Request

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

155



Lead Chain of Custody

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnaminsonLeadLab@emsl.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

AC 38017

RECEIVED
EMSL
CINNAMINSON, N.J.
NOV 22 P 12:12

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Atlas Technical	Company Name:	Atlas Technical
Contact Name:	Steve Hudson	Billing Contact:	Steve Hudson
Street Address:	11117 Mockingbird Drive	Street Address:	11117 Mockingbird Drive
City, State, Zip:	Omaha, NE, 68137	City, State, Zip:	Omaha, NE, 68137
Country:	USA	Country:	USA
Phone:	402-697-9747	Phone:	402-697-9747
Email(s) for Report:	steve.hudson@oneatlas.com	Email(s) for Invoice:	

Project Information			
Project Name/No:	WOODWARD TUNNELS	2043507475	Purchase Order:
EMSL LIMS Project ID:		US State where samples collected:	IA
(If applicable, EMSL will provide)		State of Connecticut (CT) must select project location:	<input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name:	ERIC BROWN	Sampled By Signature:	<i>Eric Brown</i>
		No. of Samples in Shipment:	1

Turn-Around-Time (TAT)

3 Hour
 6 Hour
 24 Hour
 32 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION	
CHIPS <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/cm ²	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	<input checked="" type="checkbox"/>	
<small>*Reporting Limit based on a minimum 0.25g sample weight. **Not appropriate for Ceramic Tiles - XRF is recommended</small>	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	<input type="checkbox"/>	
AIR	NIOSH 7082	Flame Atomic Absorption	4µg/filter	<input type="checkbox"/>	
	NIOSH 7303M	ICP-OES	1.0µg/filter	<input type="checkbox"/>	
	NIOSH 7303M	ICP-MS	0.05µg/filter	<input type="checkbox"/>	
WIPE <input type="checkbox"/> ASTM <input type="checkbox"/> NON-ASTM	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	<input type="checkbox"/>	
<small>*If no box is checked, non-ASTM Wipe is assumed</small>	SW 846-6010D*	ICP-OES	1.0µg/wipe	<input type="checkbox"/>	
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>	
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>	
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>	
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>	
TTLC	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>	
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>	
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>	
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>	
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>	
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>	
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>	
	Unpreserved <input type="checkbox"/>	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Preserved with HNO3 <input type="checkbox"/> PH<2	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>	
Drinking Water	Unpreserved <input type="checkbox"/>	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
	Preserved with HNO3 <input type="checkbox"/> PH<2	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
TSP/SPM Filter				<input type="checkbox"/>	
Other:				<input type="checkbox"/>	

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
PCB-15	WINDOW LINTEL AND MULLIONS WHITE		11/20/24

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time:	Received by:	Date/Time:
<i>Eric Brown</i>	11/21/24 17:00	<i>[Signature]</i>	11-22-24
Relinquished by:	Date/Time:	Received by:	Date/Time:
			10am

13D

APPENDIX C
DRAWINGS WITH SAMPLE LOCATIONS

DATE	08/20/2018
PROJECT NUMBER	200810102
SCALE	AS SHOWN
DESIGNED BY	W. J. WATSON
APPROVED BY	
DRAWN BY	

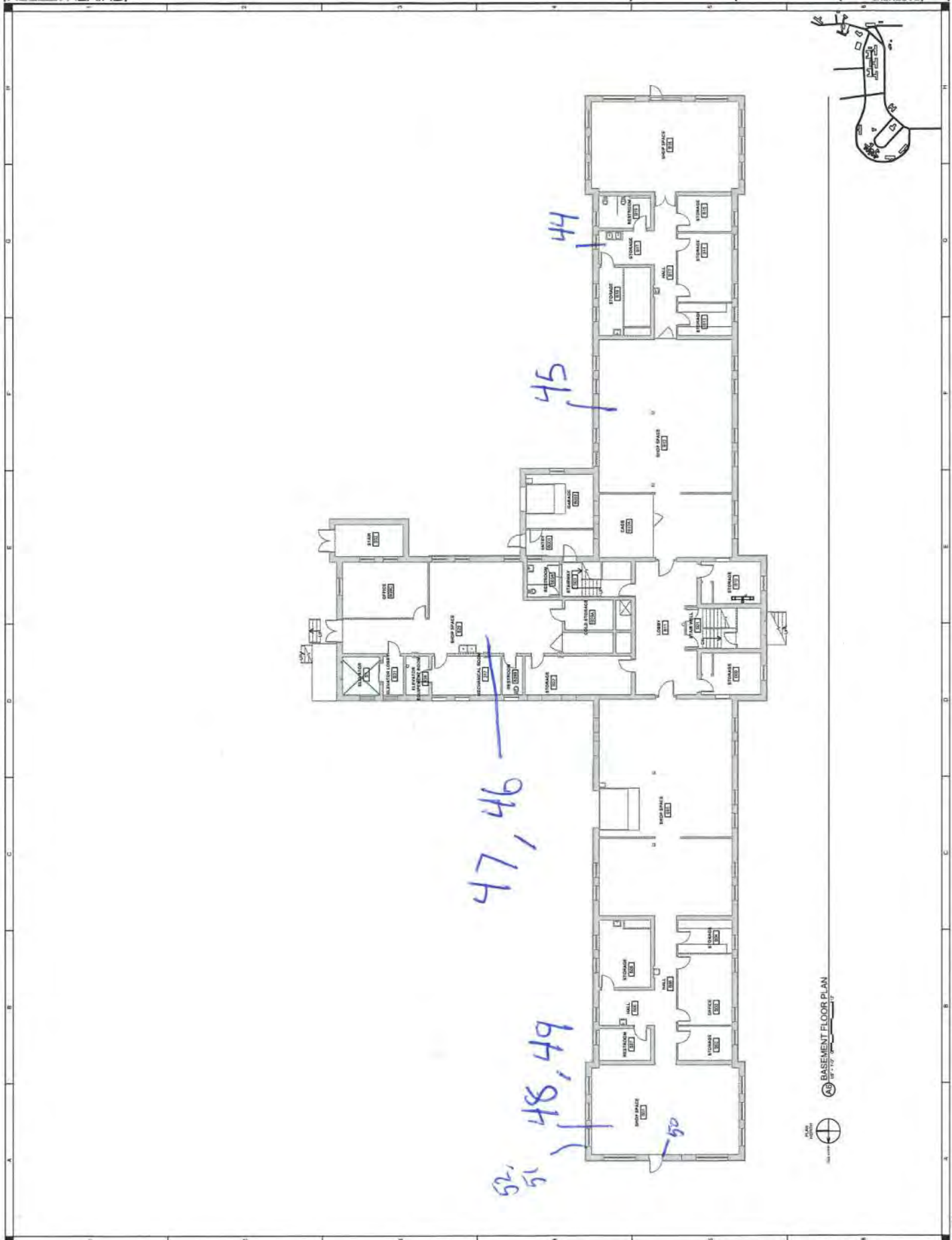
PRELIMINARY
- NOT FOR
CONSTRUCTION

315 Cedar Street, Woburn, MA 02178

SHVEHATTERY
ARCHITECTURE
450 WESTON PARK BLVD. #2
WOBURN, MA 02178
TEL: 781.938.1100



BASEMENT FLOOR PLAN

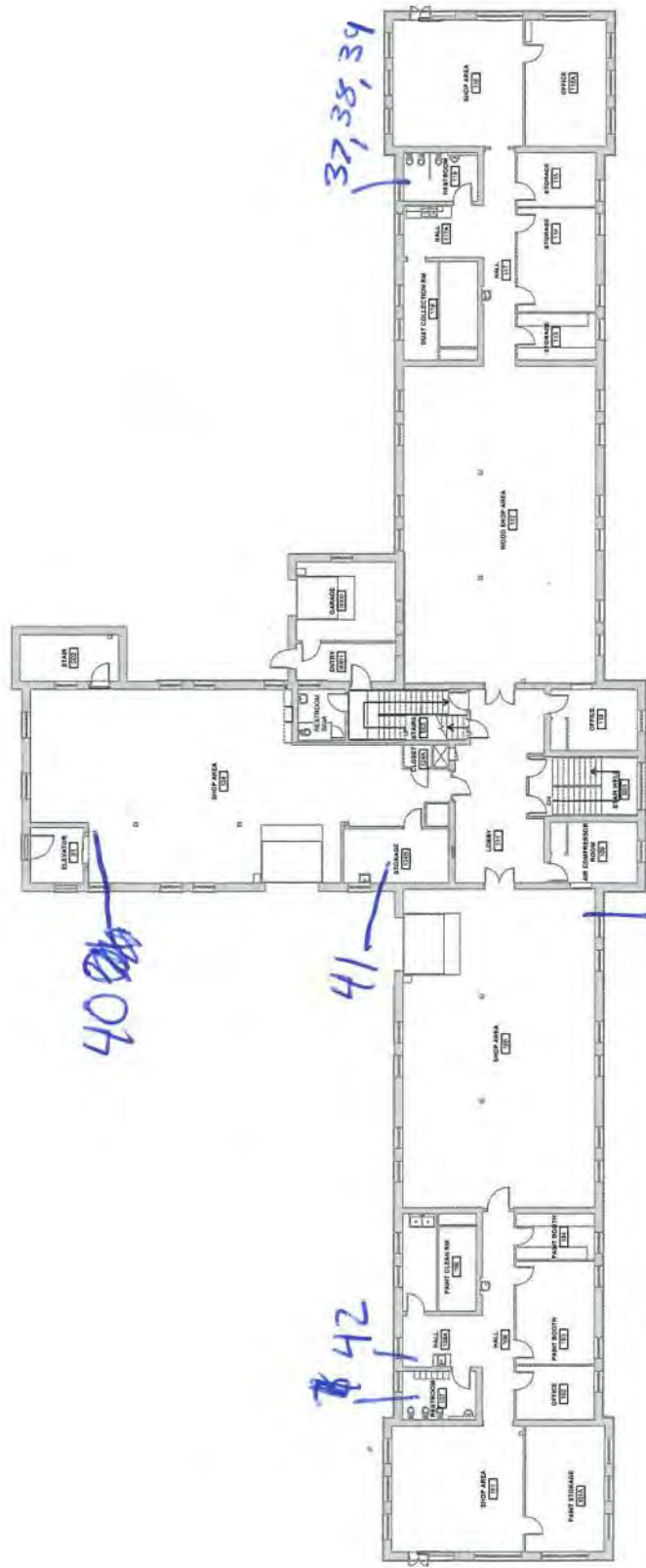


DATE	12/15/2011
PROJECT NUMBER	20110101
PROJECT NAME	20110101
ARCHITECT	SHIVEHATTERY
DATE OF ISSUE	12/15/2011
BY	SHIVEHATTERY
FOR	SHIVEHATTERY
SCALE	AS SHOWN
PROJECT NUMBER	20110101
PROJECT NAME	20110101

PRELIMINARY
- NOT FOR
CONSTRUCTION

110 CHAMBERS STREET, WOODBRIDGE, VA 22191

SHIVEHATTERY
ARCHITECTURE
110 CHAMBERS STREET, WOODBRIDGE, VA 22191
WWW.SHIVEHATTERY.COM



FIRST FLOOR PLAN

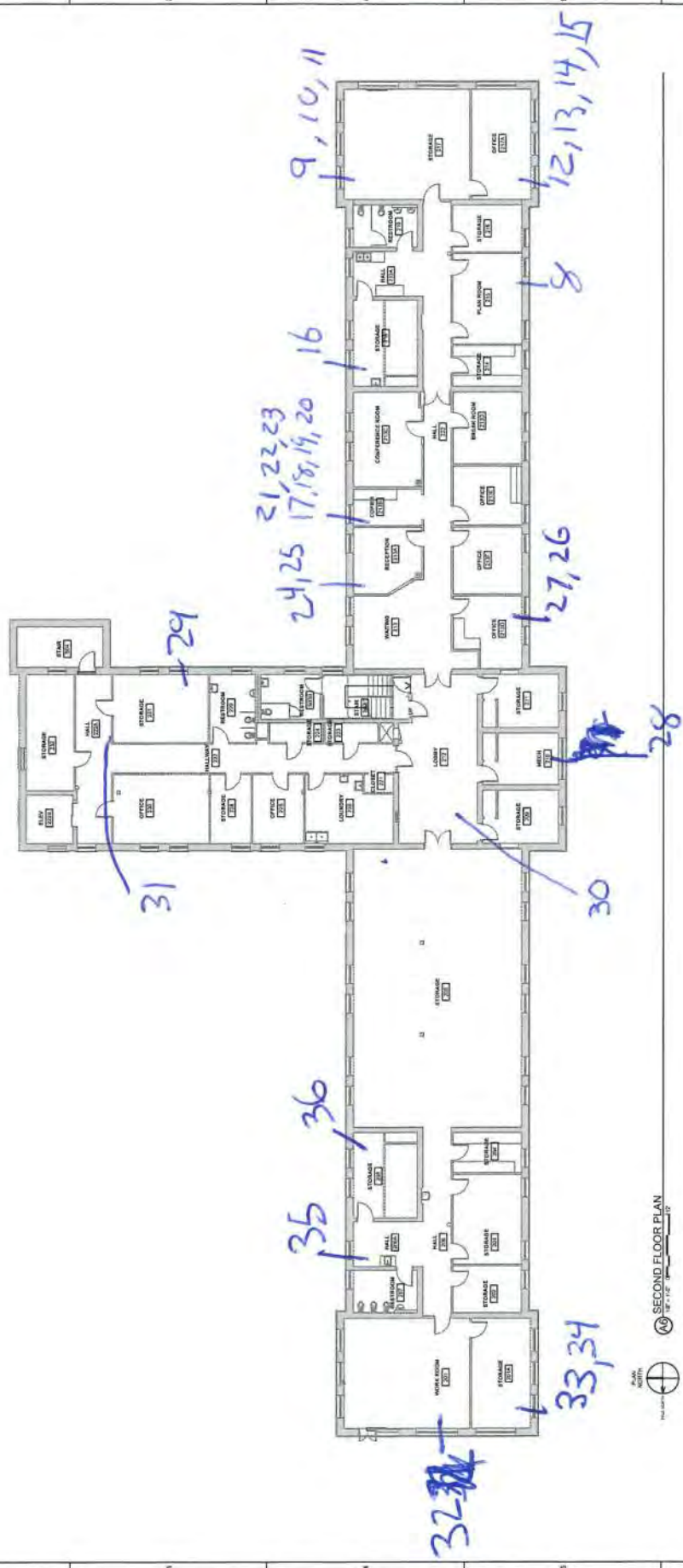
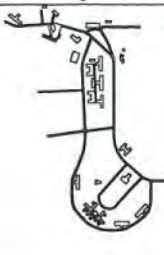


DATE	
PROJECT APPROVAL	
DESIGNER	
DATE	
REVISION	
DATE	
APPROVED BY	
DATE	
DATE	
DATE	
DATE	
DATE	

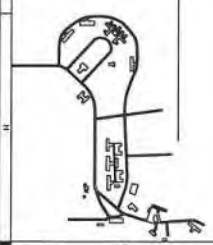
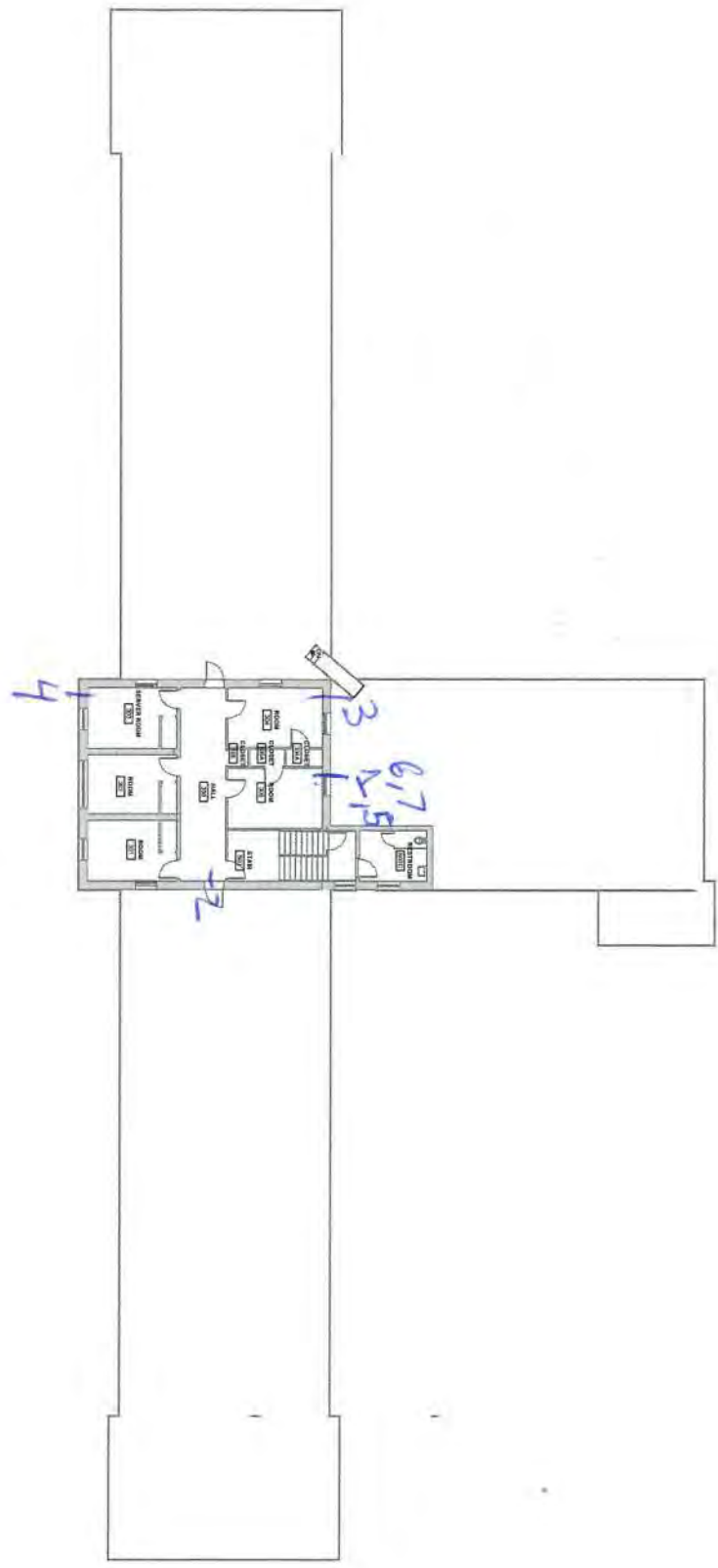
PRELIMINARY
- NOT FOR
CONSTRUCTION

10 Cedar Street, Woburn, MA 02178

SHIVE-HATTERY
ARCHITECTS
105 WESTON AVENUE SUITE 200
WOBURN, MA 02190
978.235.8100



THIRD FLOOR PLAN



THIRD FLOOR PLAN
BIRCHES - FOR REVIEW
A103

DESIGNED BY	EP
APPROVED BY	Approve
ISSUED FOR	SITE VERIFICATION
ISSUE DATE	9/27/2014
PROJECT NUMBER	224801946
FIELD BOOK	

**PRELIMINARY
- NOT FOR
CONSTRUCTION**

IA DAS
310 Cedar Street, Woodward, IA 50275

SHIVE-HATTERY
ARCHITECTS & ENGINEERS
820 WESTERN HWY, SUITE 100
WEST DES MOINES, IA 50315
PH: 515-281-1100 | WWW.SHIVE-HATTERY.COM

APPENDIX D

ASBESTOS AND LEAD PAINT PHOTO LOGS



View of the Birches Building.

1



View of the Asbestos Containing White Pipe Insulation. (B-6, 45% Chrysotile)

2

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Asbestos Containing White Caulk. (B-12, 6% Chrysotile)

3



View of the Asbestos Containing Window Glazing. (B-51, 5% Chrysotile)

4

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Asbestos Containing Gray Window Caulk. (B-52, 10% Chrysotile)



View of the Birches.

1



View of the Teal Lead Containing Paint. (PCB-1, 0.42% Pb)

2

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Yellow Lead Containing Paint. (PCB-2, 0.49% Pb)

3



View of the Yellow Lead Containing Paint. (PCB-3, 0.14% Pb)

4

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Green Lead Containing Paint. (PCB-4, 0.46% Pb)

5



View of the Blue-Green Lead Based Paint. (PCB-5, 0.64% Pb)

6

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Cream/Tan Lead Containing Paint. (PCB-6, 0.013% Pb)

7



View of the White Lead Containing Paint. (PCB-7, 0.046% Pb)

8

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the White Lead Containing Paint. (PCB-8, 0.26% Pb)

9



View of the Light Blue Lead Containing Paint. (PCB-11, 0.26% Pb)

10

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Yellow Lead Containing Paint. (PCB-12, 0.29% Pb)

11



View of the Light Purple Lead Containing Paint. (PCB-13, 0.043% Pb)

12

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Silver Lead Containing Paint. (PCB-14, 0.026% Pb)

13



View of the White Lead-based Paint. (PCB-15, 10% Pb)

14

<p>Photograph Log Birches 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--

APPENDIX E
INSPECTOR ACCREDITATIONS

ERIC BROWN

DOB: 05-07-1970

Issued: 02-27-2024



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	24-11418	02-09-2025



Asbestos

A handwritten signature in black ink, enclosed in a rectangular box. The signature appears to read "Larry Johnson, Jr.".

**Larry Johnson, Jr.
Labor Commissioner**

PHILLIP THOMAS

DOB: 05-26-1976

Issued: 01-17-2024



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	24-11142	01-03-2025
PROJECT DESIGNER	24-11144	01-04-2025
MANAGEMENT PLANNER	24-11143	01-03-2025



Asbestos

A handwritten signature in black ink, enclosed in a rectangular box. The signature appears to read "Larry Johnson, Jr.".

Larry Johnson, Jr.
Labor Commissioner

**THIS PAGE
INTENTIONALLY
LEFT BLANK**



**H A Z A R D O U S B U I L D I N G M A T E R I A L S
S U R V E Y**

PREPARED FOR:

Iowa Department of Administrative Services
109 SE 13th Street
Des Moines, Iowa 50319

PROJECT LOCATION:

Woodward Resource Center - Phase 4 Decentralization Project #9279
Chiller Building
1251 334th Street
Woodward, Iowa

Project Date: September 25 and November 20, 2024

Report Date: December 16, 2024

Atlas Project ID: 204BS07475

PREPARED BY:

Atlas Technical Consultants LLC
4503 East 50th Street, Suite 800
Des Moines, IA 50317



December 16, 2024

Ms. Jennifer Kleene
Iowa Department of Administrative Services
109 SE 13th Street
Des Moines, IA 50319

Re: Hazardous Building Materials Survey Report – Chiller Building
Woodward Resource Center – Phase 4 Decentralization Project #9279
1251 334th Street
Woodward, Iowa
Atlas Project Number: 204BS07475

Atlas is pleased to submit the attached Hazardous Building Materials Survey Report for the above-referenced site. This report includes procedures, methodologies and analytical laboratory results.

Atlas appreciates the opportunity to perform these services for the Iowa Department of Administrative Services (IDAS), and we look forward to working with you in the future. If you need any assistance with the implementation of the recommendations contained in this report, please feel free to give us a call at (515) 981-4528 and we will respond promptly to your needs.

Sincerely,

ATLAS TECHNICAL CONSULTANTS LLC

A handwritten signature in blue ink that reads "Eric Brown".

Eric Brown
Iowa Inspector
(515) 981-4528

A handwritten signature in blue ink that reads "Steve Hudson".

Steve Hudson, MS, CIH
Senior Project Manager
(402) 670-3842

T A B L E O F C O N T E N T S

LETTER OF TRANSMITTAL	i
1.0 SCOPE OF SERVICES	4
2.0 GENERAL SITE CONDITIONS.....	4
3.0 ASBESTOS SURVEY	4
3.1 Regulation Review	5
3.2 Homogeneous Areas	5
3.3 Sampling Strategy	5
3.4 Laboratory Analytical Results.....	6
3.5 Suspect Asbestos-Containing Materials.....	6
4.0 LEAD PAINT CHIP TESTING	7
4.1 Inspection	7
4.2 Lead Paint Testing	8
5.0 HAZARDOUS MATERIALS ASSESSMENT.....	9
6.0 CONCLUSIONS	10
6.1 Asbestos.....	10
6.2 Lead	10
6.3 Hazardous Building Materials.....	10
7.0 ASSUMPTIONS AND LIMITATIONS.....	10

APPENDICES

APPENDIX A:	Asbestos Analytical Report and Chain of Custody
APPENDIX B:	Lead Analytical Report and Chain of Custody
APPENDIX C:	Drawings with Sample Locations
APPENDIX D:	Asbestos and Lead Paint Photo Logs
APPENDIX E:	Inspector Accreditations



HAZARDOUS BUILDING MATERIALS SURVEY REPORT

Woodward Resource Center – Chiller Building
Phase 4 Decentralization Project #9279
1251 334th Street
Woodward, Iowa
Atlas Project Number: 204BS07475

1.0 SCOPE OF SERVICES

The purpose of this project was to perform a survey to identify hazardous building materials at the above-referenced property.

Atlas provided a representative asbestos survey in accordance with the referenced agreement and as outlined below:

1. Review any existing hazardous building material survey reports relating to the site, if available.
2. Identify suspect asbestos-containing materials (ACM), surface coatings potentially containing lead paint, and hazardous building materials throughout the interior and exterior of the building, not including the roof.
3. Collect and analyze bulk samples of suspect asbestos containing materials and collect paint chip samples from representative surface coatings potentially containing lead-based or lead-containing paint.
4. Provide laboratory analysis of collected samples.
5. Provide a report of findings with copies and interpretation of analytical results and identifying the locations of asbestos-containing materials, lead paint, and hazardous building materials.

2.0 GENERAL SITE CONDITIONS

The survey was conducted at the Woodward Resource Center – Chiller Building located at 1251 334th Street in Woodward, Iowa. The survey was limited to accessible surfaces on the interior and exterior of the building, not including the roof.

3.0 ASBESTOS SURVEY

On September 25, the Chiller Building was inspected for ACMs by inspector Eric Brown of Atlas. Mr. Brown has completed the requisite training for asbestos accreditation as inspectors at a state approved training provider under TSCA Title II. Mr. Brown's State of Iowa Inspector number is 24-11418.

Accessible areas were visually inspected for the presence of suspect ACMs. Materials that were hidden, not accessible, or when sampled would damage the integrity of the structure, were not sampled as part of this survey. Materials visibly identified as non-asbestos (fibrous glass, foam



rubber, wood, etc.) were not sampled. The asbestos survey consisted of three basic steps: **1)** a visual inspection of the proposed work areas; **2)** a determination of homogeneous areas with suspect surfacing, thermal system insulation, and miscellaneous materials; and **3)** sampling accessible, friable and non-friable, suspect materials.

3.1 Regulation Review

The United States Environmental Protection Agency (USEPA) qualifies ACM as materials with an asbestos content greater than 1%. The following definitions are taken from Section 61.141 of Subpart M, Part 61 of Title 40: Protection of Environment of the Code of Federal Regulations (CFR).

- “Category I non-friable ACM” is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1% asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy (PLM).
- “Category II non-friable ACM” is defined as any material, excluding Category I non-friable ACM, containing more than 1% asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, PLM that, when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.
- “Friable asbestos material” is defined as any material containing more than 1% asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, PLM that when dry, **can** be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10% as determined by a method other than point counting by PLM, verify the asbestos content by point counting using PLM.

3.2 Homogeneous Areas

Prior to sampling, homogeneous areas were identified in order to facilitate a sampling strategy. A homogeneous sampling area can be described as one or more areas with suspect material similar in appearance and texture that have the same installation date and function. The actual number of samples collected from each homogeneous sampling area may vary, dependent upon material type and the professional judgment of the inspector.

3.3 Sampling Strategy

The sampling strategy incorporated Asbestos Hazard Emergency Response Acts (AHERA) requirements, quantities of suspect material, and the inspector’s judgment to aid in the identification of suspect asbestos-containing materials. If the analytical results indicated that all the samples collected per homogeneous area did not contain asbestos, then the homogeneous area (material) was considered non-asbestos-containing. However, if the analytical results of one or more of the samples collected per homogeneous area indicated that asbestos was present in quantities greater than one percent asbestos (as defined by EPA), all of the homogeneous area (material) was treated as an asbestos-containing material regardless of any other analytical results. Materials which were visually determined to be non-asbestos (i.e. fibrous glass, foam rubber, etc.) by the accredited inspector were not required to be sampled. Actual collection of a bulk asbestos sample involves physically removing approximately one square inch (1 in²) of material and placing it in an airtight



sample container. Sample containers were marked with a unique identification number, which was documented in the field notes.

3.4 Laboratory Analytical Results

A total of **eight** samples were collected from building materials suspected of containing asbestos. The samples were submitted under chain of custody to EMSL Analytical, Inc. (EMSL) located at 200 Route 130 North in Cinnaminson, New Jersey, for analysis by polarized light microscopy (PLM) with dispersion staining techniques per the *USEPA Method for the Determination of Asbestos in Bulk Building Materials (600/R-93-116)*. The percentage of asbestos, if applicable, was established by microscopic visual estimation. EMSL is an accredited laboratory by the National Voluntary Laboratory Accreditation Plan (NVLAP) No. 101048-0. Any material that contains greater than one percent (>1%) asbestos is considered an ACM and must be handled according to Occupational Safety and Health Administration (OSHA), USEPA, and all applicable state and local regulations.

Laboratory test results are provided in Appendix A.

3.5 Suspect Asbestos-Containing Materials

The following table contains a list of suspect asbestos containing materials sampled:

TABLE 1: SUSPECT ASBESTOS MATERIALS		
Material	Location	Sample Number
Vibration Damper	North Side	C-1
Black Tar	Dividing Wall	C-2
CMU Mortar	Dividing Wall	C-3
TSI Sealant White	South Side	C-4
Gray Caulk	North Door	C-5
Brick Grout	Northeast Corner	C-6
Expansion Joint Light Gray	West Side, Exterior	C-7
Caulk Gray	South Chiller	C-8

The following table is a summary of the suspect asbestos-containing materials that have been determined, through laboratory analysis, to contain asbestos:

TABLE 2: ASBESTOS-CONTAINING MATERIALS				
Sample Number	Material	Location	Approx. Quantity	Asbestos Content
C-2	Black Tar	Dividing Wall	450 SF	8% Chrysotile



TABLE 2: ASBESTOS-CONTAINING MATERIALS				
Sample Number	Material	Location	Approx. Quantity	Asbestos Content
C7	Light Gray Expansion Joint	West Side Exterior	16 LF	8% Chrysotile
SF = Square Feet, LF = Linear Feet				

4.0 LEAD PAINT CHIP TESTING

Atlas collected paint chip samples from representative surface coatings that may be impacted by renovation activities.

Surface coatings that were collected were considered to be representative of materials in a homogeneous area if:

1. They exhibited similar physical characteristics (suspect materials alike in appearance, substrate, color, and time of application were tested as homogenous areas)
2. The application of the tested surface could be associated to an application of an unsampled surface.

Atlas collected and submitted a total of **three** paint chip samples from surface coatings. The samples were submitted to EMSL of Cinnaminson, New Jersey, under proper chain of custody for analysis by Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B). EMSL is accredited under the American Industrial Hygiene Association-Laboratory Accreditation Program (AIHA-LAP, LLC) (AIHA-LAP; lab code 100194). A copy of the analytical results and chain of custody can be found in Appendix B.

The USEPA has defined LBP as “*paint or other surface coatings that contain in excess of 0.5 percent by weight (>0.5%)*”. Results less than 0.5% by weight indicate that lead is not present at or above the USEPA regulatory level; however, lead was present in lower concentrations above the laboratory detection limit in other surfaces tested and these are classified as lead-containing paint (LCP). Negative results do not mean that lead is not present.

4.1 Inspection

The disturbance and disposal of materials with surface coatings that contain lead paint are regulated by the USEPA, OSHA and the State of Iowa. The Resource Conservation and Recovery Act (RCRA) provides the USEPA with the authority to regulate the waste status of demolition or renovation debris, including lead-containing materials. Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes.

Construction work covered by 29 CFR 1926.62 includes any repair, renovation or other activities that disturb in-place, lead-containing materials, but does not include routine cleaning and repainting where there is insignificant damage, wear or corrosion of existing lead-containing



coatings or substrates. Unless adequately protected, employee exposures to lead must not exceed airborne concentrations >50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) averaged over an 8-hour period.

Occupational exposure to lead occurring in the course of construction work, including maintenance activities, painting, alteration and repairs is subject to the OSHA Lead standard (29 CFR 1926.62). The lead standard applies to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending upon the method of removal and other workplace conditions.

The disposal of lead-based paint waste, as well as paint waste containing other heavy metals, is regulated by the USEPA and State of Iowa. Wastes generated by industrial businesses, commercial businesses, and government institutions are subject to regulation. Commercial business owners and removal contractors are required to determine if paint waste generated from nonresidential structures (such as public and commercial buildings, warehouses, bridges, water towers, and transmission towers) contains heavy metals that would cause the debris to be considered a hazardous waste. Disposal options and applicable management requirements for collected debris will be based upon whether the waste stream is considered a hazardous waste and the amount of debris generated. Removal contractors and building owners need to include these factors when preparing and responding to bid specifications. Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes. Lead-containing wastes are considered hazardous waste under RCRA if Toxicity Characteristic Leachate Procedure (TCLP) results exceed 5 milligrams per liter (mg/L). The USEPA has made exceptions for the handling and disposal of lead wastes generated from residential housing.

Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes. Lead-containing wastes are considered hazardous waste under RCRA if Toxicity Characteristic Leachate Procedure (TCLP) results exceed 5 milligrams per liter (mg/L). The USEPA has made exceptions for the handling and disposal of lead wastes generated from residential housing.

The above overview is not intended to be inclusive of all potentially pertinent regulatory information. The relevant USEPA, OSHA and State of Iowa regulations should be consulted prior to undertaking activities involving the demolition, renovation or maintenance of surface coatings that contain lead.

4.2 Lead Paint Testing

The following surface coatings were collected as part of the lead paint testing:

TABLE 3: LEAD PAINT SUMMARY				
Sample Number	Sample Location	Representative Material	Paint Color	Lead Concentration (% by weight)
PCC-1	Doors	Metal	Rust/Brown	0.039
PCC-2	Stair Railings	Metal	Red	<0.025



TABLE 3: LEAD PAINT SUMMARY				
Sample Number	Sample Location	Representative Material	Paint Color	Lead Concentration (% by weight)
PCC-3	Chillers	Metal	Green	<0.008

bolded = lead-based paint

This evaluation report can help the Owner develop a plan for renovating the building by having concentrations of lead in the paint identified. It is our understanding that the information in this report will be provided to the contractors so that appropriate precautions can be made to minimize worker exposure to lead. If surface coatings with lead containing paint are handled improperly, exposure could occur to workers and future occupants of the facility.

5.0 HAZARDOUS MATERIALS ASSESSMENT

Atlas completed a visual inspection of rooms / areas throughout the intended work areas in an attempt to identify hazardous wastes or universal wastes that may be impacted by planned renovation activities. The survey included a visual inspection of: light fixtures and other equipment for the presence of Polychlorinated Biphenyls (PCBs); light bulbs, thermostats, switches, and other equipment for the presence of mercury; refrigerants, batteries, and devices with potential radioactive materials.

TABLE 4: HAZARDOUS BUILDING MATERIALS		
Category	Material	Estimated Quantity
Batteries	Lead Acid	NA
	Nickel Cadmium	NA
	Lithium-Ion	NA
Mercury	Thermostats	NA
	Fluorescent Light Tubes	11
	High Intensity Discharge Bulbs	NA
	Strobes	NA
Poly-Chlorinated Biphenyl (PCBs)	Light Ballasts	NA
	Transformers	NA
Low Level Radioactive Sources (LLR)	Tritium Exit Signs	NA
	Smoke Detectors	2
Chlorofluorocarbons (CFCs) or Hydro Chlorofluorocarbons (HCFCs)	Refrigerator/Cooler	NA
	Freezer	NA



TABLE 4: HAZARDOUS BUILDING MATERIALS		
Category	Material	Estimated Quantity
	Water Fountain	NA

6.0 CONCLUSIONS

6.1 Asbestos

The NESHAP and OSHA regulations govern the removal of ACM. Atlas recommends that a State of Iowa certified abatement contractor be retained to properly abate and dispose of ACM identified in Table 1 above and in accordance with local, state, and federal regulations.

The owner and/or operator are responsible for NESHAP regulatory compliance regarding the proper removal, handling, and disposal of ACM containing >1% asbestos prior to renovation or demolition. Also, per state regulations, please be aware that the owner and/or operator must submit a notification to the Iowa Department of Natural Resources (IDNR) 10-business days prior to asbestos abatement at certain quantity thresholds and prior to renovation/demolition activities.

6.2 Lead

Lead was identified above the laboratory detection limit in one of the three surface coatings tested.

Contractors should use caution during construction-related activities as concealed surface coatings containing lead paints that were not previously tested may be encountered. If materials not sampled during this investigation are later identified to contain regulated quantities of lead concentrations, then they should be removed, controlled and/or disposed in accordance with federal, state and local regulations, prior to disturbance. OSHA considers any detectable level of lead as LCP and disturbance of these surface coatings is subject to the training and work practices in OSHA 29 CFR 1926.62 “Lead in Construction”.

6.3 Hazardous Building Materials

Hazardous materials or universal wastes identified in Table 4 that will be impacted by renovation activities shall be removed as part of the renovation contractor’s scope of work and disposed of according to USEPA Toxic Substances Control Act (TSCA) and the State of Iowa regulations.

7.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based solely on conditions noted during the September 25 and November 20, 2024, Atlas hazardous building materials survey of the Woodward Resource Center – Chiller Building in Woodward, Iowa.

Atlas did not perform destructive sampling -- it was not within Atlas’s scope of work to remove surface materials to investigate portions of the structure or materials that may lay beneath the



surface -- thus, any materials that could not be visually identified on the surface were not inspected and would not be noted in this report. Atlas's selection of sample locations and frequency of sampling was based on the inspector's assumption that like materials in the same area are homogeneous in content.

The report is designed to aid the building owner, architect, construction manager, general contractor, and potential abatement contractor in locating hazardous building materials. Under no circumstances is the report to be utilized as a bidding document or as a project specification document since it does not have all the components required to serve as a Project Design document or an Abatement Work plan.

Our professional services have been performed, our findings obtained, and our conclusions and recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

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

Atlas recommendations are based in part on federal, state, local regulations, and guidelines. Atlas does not undertake responsibility for reporting to any local, state, or federal public agencies of conditions at the site that may present a potential danger to public health or safety. Atlas recommends that the Client comply with regulations and response actions in accordance with federal, state, and local regulations.

APPENDIX A

ASBESTOS ANALYTICAL RESULTS AND CHAIN OF CUSTODY



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order: 042420695

Customer ID: ATC55

Customer PO:

Project ID:

Attention: Eric Brown
Atlas Technical
11117 Mockingbird Drive
Omaha, NE 68137

Phone: (402) 697-9747

Fax: (402) 597-8532

Received Date: 10/04/2024 9:20 AM

Analysis Date: 10/06/2024

Collected Date: 09/25/2024

Project: 204BS07475 / Woodward Tunnel Survey / Chiller

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
C-1 <i>042420695-0001</i>	Ground Floor - North Side - Vibration Damper	Brown/Gray Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
C-2 <i>042420695-0002</i>	Ground Floor -Dividing Wall - Black Wall Tar	Black Non-Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
C-3 <i>042420695-0003</i>	Ground Floor -Dividing Wall - CMU Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-4 <i>042420695-0004</i>	Ground Floor -South Side - TSI Sealant - White	Tan/White Non-Fibrous Homogeneous	5% Fibrous (Other)	95% Non-fibrous (Other)	None Detected
C-5 <i>042420695-0005</i>	Exterior - North Door - Grey Caulk <i>Inseparable paint / coating layer included in analysis</i>	White/Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-6 <i>042420695-0006</i>	Exterior - Northeast Corner - Brick Grout	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-7 <i>042420695-0007</i>	Exterior - West Side - Expansion Joint - Light Grey	Gray/White Non-Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
C-8 <i>042420695-0008</i>	Exterior - South Chiller - Grey Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Hunter Kelly (8)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This 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. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, PA ID# 68-00367, LA #04127

Initial report from: 10/07/2024 07:42:39



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042420695

EMSL Analytical, Inc.

Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
EMAIL: c@emsl.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name:	Billing Contact: Steve Hudson
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha NE 68137 Country: US	City, State, Zip: Omaha NE 68137 Country: US
	Phone: 402-697-9747	Phone: 402-697-9747
Email(s) for Report: eric.l.brown@oneatlas.com	Email(s) for Invoice:	

Project Information		Purchase Order:
Project Name/No: WOODWARD TUNNEL SURVEY 2043507475	US State where samples collected: IA	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
EMSL LIMS Project ID: (if applicable, EMSL will provide)	Sampled By Name: ERIC BROWN	Sampled By Signature: Eric Brown
		No. of Samples in Shipment: 8

Turn-Around-Time (TAT)

3 Hour 4-4.5 Hour 6 Hour 24 Hour 32 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

<p>PCM Air</p> <p><input type="checkbox"/> NIOSH 7400</p> <p><input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA</p> <p>PLM - Bulk (reporting limit)</p> <p><input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)</p> <p><input type="checkbox"/> PLM EPA NOB (<1%)</p> <p><input type="checkbox"/> POINT COUNT</p> <p><input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%)</p> <p>POINT COUNT w/ GRAVIMETRIC</p> <p><input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%)</p> <p><input type="checkbox"/> NIOSH 9002 (<1%)</p> <p><input type="checkbox"/> NYS 198.1 (Friable - NY)</p> <p><input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY)</p> <p><input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)</p>	<p>Test Selection</p> <p>TEM - Air</p> <p><input type="checkbox"/> AHERA 40 CFR, Part 763</p> <p><input type="checkbox"/> NIOSH 7402</p> <p><input type="checkbox"/> EPA Level II</p> <p><input type="checkbox"/> ISO 10312*</p> <p>TEM - Bulk</p> <p><input type="checkbox"/> TEM EPA NOB</p> <p><input type="checkbox"/> NYS NOB 198.4 (Non-Friable-NY)</p> <p><input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%)</p> <p>Other Test (please specify)</p>	<p>TEM - Settled Dust</p> <p><input type="checkbox"/> Microvac - ASTM D5755</p> <p><input type="checkbox"/> Wipe - ASTM D6480</p> <p><input type="checkbox"/> Qualitative via Filtration Prep</p> <p><input type="checkbox"/> Qualitative via Drop Mount Prep</p> <p>Soil - Rock - Vermiculite (reporting limit)*</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%)</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.1%)</p> <p><input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%)</p> <p><input type="checkbox"/> TEM Qualitative via Filtration Prep</p> <p><input type="checkbox"/> TEM Qualitative via Drop Mount Prep</p>
---	---	--

*Please call with your project-specific requirements.

Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) 0.8um 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
See the other sheets			RECEIVED EMSL CINNAMINSON, NJ 2024 OCT - 11 AM 11:23

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment:	Sample Condition Upon Receipt:
Relinquished by: Eric Brown	Received by: Angie ONeill
Date/Time: 10/3/24 12:00	Date/Time: 10/4/24 9:20
Relinquished by:	Received by:
Date/Time:	Date/Time:

Controlled Document - CDC-05 Asbestos R15 4/23/2021 AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

8

ASBESTOS BULK SAMPLE FORM



11117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747
Fax (402) 597-8532

Project Information

Client:	Project Description: <i>Chiller</i>	Project Manager: <i>SH</i> Inspector: <i>EB</i>
Date: <i>9/25/24</i>	Site Location: <i>Woodward</i>	ATLAS PROJECT NUMBER: <i>264B507475</i>

Sample #	Material Description	Floor	Sample Location	Quantity
C-1	Vibration dampers	G	North side	2
C-2	Black wall tar	G	Dividing wall	
C-3	CMU Mortar	G	Dividing wall	
C-4	ISI ISI-sealant white	G	South Side	
C-5	Gray Caulk	E	North door	
C-6	Brick Grout	E	Northeast corner	
C-7	Expansion Joint ^{light Gray}	E	West Side	
C-8	Gray Caulk		South Chiller	

RECEIVED
 EMSL
 GINNANTINSON NJ
 2024 OCT -4 A 11:23

APPENDIX B

LEAD PAINT ANALYTICAL RESULTS AND CHAIN OF CUSTODY

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
 Telephone: 856-858-4800 Fax:856-786-5974
 EMSL-CIN-01

EMSL Order ID: 012438016
LIMS Reference ID: AC38016
EMSL Customer ID: ATC55

Attention: Steve Hudson
 Atlas Technical [ATC55]
 11117 Mockingbird Drive
 Omaha, NE 68137
 (402) 697-9747
 steve.hudson@oneatlas.com

Project Name: Woodward Tunnels // 204BS07475

Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 11/22/2024 10:00
Reported: 11/27/2024 10:57

Analytical Results

Analyte	Results	RL	Weight(g)	Prep Date & Tech	Prep Method	Analysis Date & Analyst	Analytical Method	Q	DF
Client Sample ID: PCC - 1/Door Rust - Brown						Date Sampled: 11/20/24			
Matrix: Chips						LIMS Reference ID: AC38016-01			
Lead	0.039 % wt	0.015 % wt	0.1308	11/25/24 KD1	SW-846 3050B	11/26/24 PMX	SW846-7000B		1
Sample Comments:									
Client Sample ID: PCC - 2/Stair Railing - Red						Date Sampled: 11/20/24			
Matrix: Chips						LIMS Reference ID: AC38016-02			
Lead	<0.025 % wt	0.025 % wt	0.0786	11/25/24 KD1	SW-846 3050B	11/26/24 PMX	SW846-7000B		1
Sample Comments:									
Client Sample ID: PCC - 3/Chiller - Green						Date Sampled: 11/20/24			
Matrix: Chips						LIMS Reference ID: AC38016-03			
Lead	<0.008 % wt	0.008 % wt	0.2506	11/25/24 KD1	SW-846 3050B	11/26/24 PMX	SW846-7000B		1
Sample Comments:									

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
 Telephone: 856-858-4800 Fax:856-786-5974
 EMSL-CIN-01

EMSL Order ID: 012438016
LIMS Reference ID: AC38016
EMSL Customer ID: ATC55

Attention: Steve Hudson
 Atlas Technical [ATC55]
 11117 Mockingbird Drive
 Omaha, NE 68137
 (402) 697-9747
 steve.hudson@oneatlas.com

Project Name: Woodward Tunnels // 204BS07475

Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 11/22/2024 10:00
Reported: 11/27/2024 10:57

Certified Analyses included in this Report

Analyte	Certifications
SW846-7000B in Chips	
Lead	AIHA LAP

List of Certifications

Code	Description	Number	Expires
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2025
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
NYSDOH	New York State Department of Health	10872	04/01/2025
California ELAP	California Water Boards	1877	06/30/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2026
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2025
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2025
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2026

Please see the specific Field of Testing (FOT) on www.emsl.com for a complete listing of parameters for which EMSL is certified.

Notes and Definitions

Item	Definition
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
NR	Spike/Surrogate showed no recovery.
Q	Qualifier
RL	Reporting Limit For paint chips, the RL is 0.008% by wt. (equiv. to 80 mg/kg, or ppm) based upon a minimum sample weight of 0.25 grams. For soils, the RL is 40 mg/kg (ppm) based upon a minimum sample weight of 0.5 grams. For dust wipes, the RL is 10 µg/wipe; reporting units of µg/sq. ft. are not validated by the lab based upon data provided by non-lab personnel.
Wet	Sample is not dry weight corrected.
Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.	



EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012438016
LIMS Reference ID: AC38016
EMSL Customer ID: ATC55

Attention: Steve Hudson
Atlas Technical [ATC55]
11117 Mockingbird Drive
Omaha, NE 68137
(402) 697-9747
steve.hudson@oneatlas.com

Project Name: Woodward Tunnels // 204BS07475

Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 11/22/2024 10:00
Reported: 11/27/2024 10:57

Owen McKenna Laboratory Manager or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. QC sample results are within quality control criteria and met method specifications unless otherwise noted. All results for soil samples are reported on a dry weight basis, unless otherwise noted.

Analysis following EMSL SOP for the Determination of Environmental Lead by FLAA. The laboratory has a reporting limit of 0.008% by wt., based upon a minimum sample weight of 0.25g submitted to the lab, and is not responsible for any result or reporting limit provided in mg/cm² since it is dependent upon an area value provided by non-lab personnel. A "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty and definitions of modifications are available upon request. Results in this report are not blank corrected unless specified.



Lead Chain of Custody

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675

EMAIL: CinnaminsonLeadLab@emsl.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

AC38016

RECEIVED
EMSL
CINNAMINSON, N.J.

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name: Steve Hudson	Billing Contact: Steve Hudson
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha, NE, 68137 Country: USA	City, State, Zip: Omaha, NE, 68137 Country: USA
	Phone: 402-697-9747	Phone: 402-697-9747
Email(s) for Report: steve.hudson@oneatlas.com	Email(s) for Invoice:	

Project Information		
Project Name/No: <u>WOODWARD TUNNELS</u> <u>204B507475</u>	Purchase Order:	
EMSL LIMS Project ID: (If applicable, EMSL will provide)	US State where samples collected: <u>IA</u>	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: <u>ERIC BROWN</u>	Sampled By Signature: <u>Eric Brown</u>	No. of Samples in Shipment: <u>3</u>

Turn-Around-Time (TAT)

3 Hour
 6 Hour
 24 Hour
 32 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only, samples must be submitted by 11:30am

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
CHIPS <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/cm ² <small>*Reporting Limit based on a minimum 0.25g sample weight **Not appropriate for Ceramic Tiles - XRF is recommended</small>	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	<input checked="" type="checkbox"/>
	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	<input type="checkbox"/>
AIR	NIOSH 7082	Flame Atomic Absorption	4µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-OES	1.0µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-MS	0.05µg/filter	<input type="checkbox"/>
WIPE <input type="checkbox"/> ASTM <input type="checkbox"/> NON-ASTM *If no box is checked, non-ASTM Wipe is assumed	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	1.0µg/wipe	<input type="checkbox"/>
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTLIC	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Preserved with HNO ₃ <input type="checkbox"/> PH<2	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
Drinking Water	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
Preserved with HNO ₃ <input type="checkbox"/> PH<2				<input type="checkbox"/>
TSP/SPM Filter				<input type="checkbox"/>
Other:				<input type="checkbox"/>

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
PCC-1	DOOR RUSS/BROWN		11/20/24
PCC-2	STAIR RAILING RED		11/20/24
PCC-3	CHILLER GREEN		11/20/24

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by: <u>Eric Brown</u>	Date/Time: <u>11/20/24 17:00</u>	Received by: <u>E. Quinn EPI</u>	Date/Time: <u>11/22/24 10am</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:

Controlled Document - COC-25 Lead R18 04/04/2024 *6010C Available Upon Request

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.



Lead Chain of Custody

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675

EMAIL: CinnaminsonLeadLab@emsl.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

AC38016

RECEIVED
EMSL
CINNAMINSON, N.J.

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name: Steve Hudson	Billing Contact: Steve Hudson
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha, NE, 68137 Country: USA	City, State, Zip: Omaha, NE, 68137 Country: USA
	Phone: 402-697-9747	Phone: 402-697-9747
Email(s) for Report: steve.hudson@oneatlas.com	Email(s) for Invoice:	

Project Information	
Project Name/No: <u>WOODWARD TUNNELS</u>	Purchase Order: <u>204BS07475</u>
EMSL LIMS Project ID: (if applicable, EMSL will provide)	US State where samples collected: <u>IA</u>
State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)	No. of Samples in Shipment: <u>3</u>
Sampled By Name: <u>ERIC BROWN</u>	Sampled By Signature: <u>Eric Brown</u>

Turn-Around-Time (TAT)

3 Hour
 6 Hour
 24 Hour
 32 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
CHIPS <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/cm ² *Reporting Limit based on a minimum 0.25g sample weight. **Not appropriate for Ceramic Tiles - XRF is recommended	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	<input checked="" type="checkbox"/>
	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	<input type="checkbox"/>
AIR	NIOSH 7082	Flame Atomic Absorption	4µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-OES	1.0µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-MS	0.05µg/filter	<input type="checkbox"/>
WIPE <input type="checkbox"/> ASTM <input type="checkbox"/> NON-ASTM *If no box is checked, non-ASTM Wipe is assumed	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	1.0µg/wipe	<input type="checkbox"/>
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTLC	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Preserved with HNO3 <input type="checkbox"/> PH<2	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
Drinking Water	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
Preserved with HNO3 <input type="checkbox"/> PH<2				<input type="checkbox"/>
TSP/SPM Filter				<input type="checkbox"/>
Other:				<input type="checkbox"/>

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
PCC-1	DOOR RUSSE/BROWN		11/20/24
PCC-2	STAIR RAILING RED		11/20/24
PCC-3	CHILLER GREEN		11/20/24

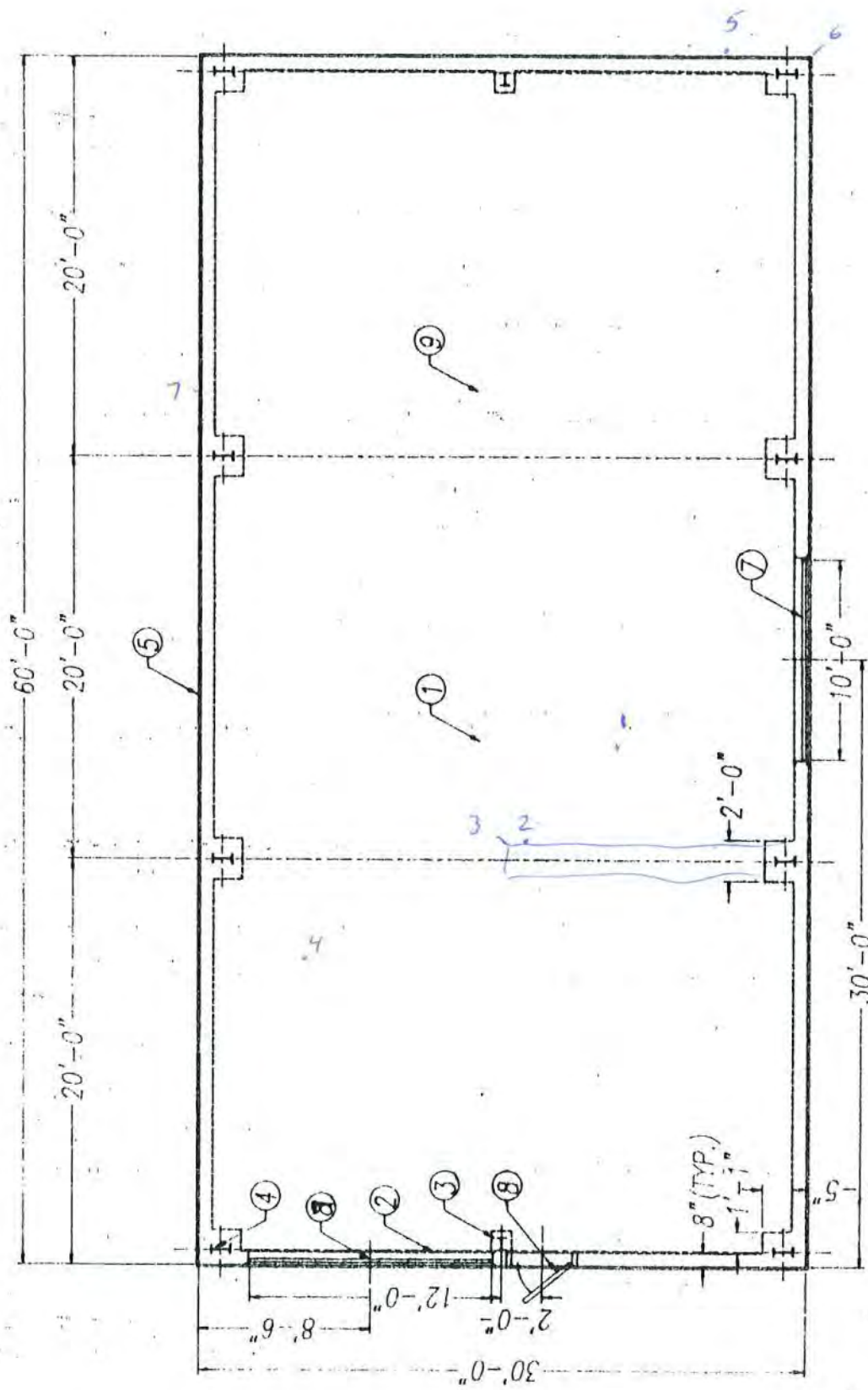
Method of Shipment:	Sample Condition Upon Receipt:
Relinquished by: <u>Eric Brown</u>	Date/Time: <u>11/22/24 17:00</u>
Relinquished by:	Date/Time:
Received by: <u>E. Quinn EBY</u>	Date/Time: <u>11/22/24 10am</u>
Received by:	Date/Time:

Controlled Document - CDC-25 Lead R18 04/04/2024 *5010C Available Upon Request

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

APPENDIX C
DRAWINGS WITH SAMPLE LOCATIONS



PLAN

SCALE: 1/8" = 1'-0"

APPENDIX D

ASBESTOS AND LEAD PAINT PHOTO LOGS



View of the Chiller.

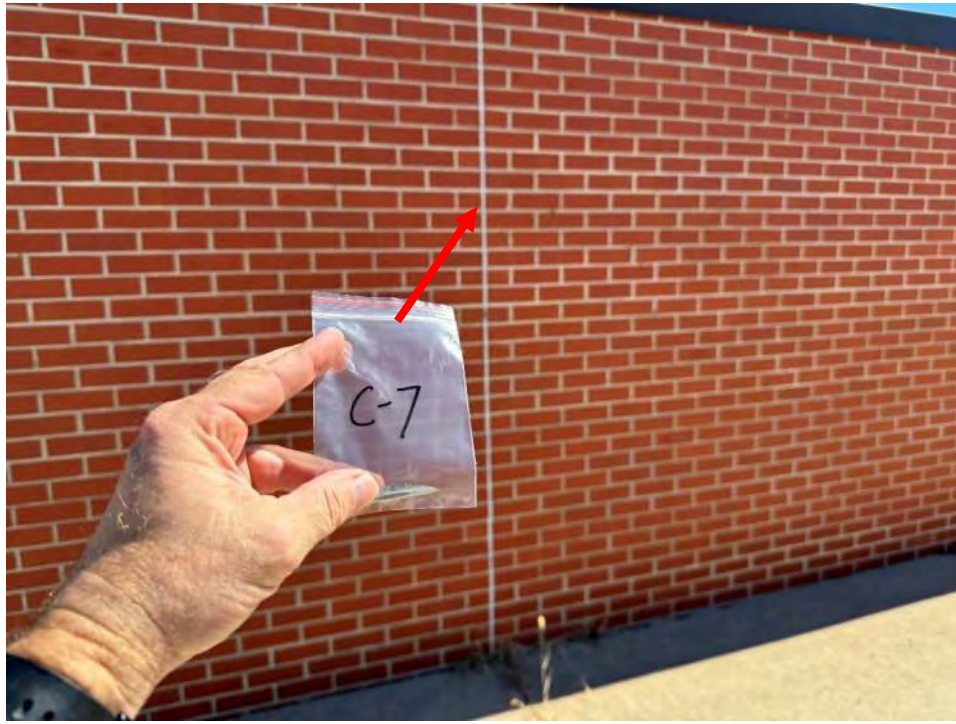
1



View of the Asbestos Containing Black Tar on dividing wall. (C-2, 8% Chrysotile)

2

<p>Photograph Log Chiller 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Asbestos Containing Light Gray Expansion Joint. (C-7, 8% Chrysotile)

<p>Photograph Log Chiller 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Chiller Building.

1



View of the interior of the Chiller Building

2

<p>Photograph Log Chiller 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
--	--



View of the Rust/Brown Lead Containing Paint. (PCC-1, 0.039% Pb)



Photograph Log
Chiller
1251 334th Street
Woodward, Iowa

Atlas Technical Consultants, LLC
4503 East 50th Street, Suite 800,
Des Moines, IA 50317
(515) 981-4528
Project No. 204BS07475

APPENDIX E
INSPECTOR ACCREDITATIONS

ERIC BROWN

DOB: 05-07-1970

Issued: 02-27-2024

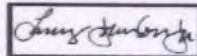


This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	24-11418	02-09-2025



Asbestos



**Larry Johnson, Jr.
Labor Commissioner**

PHILLIP THOMAS

DOB: 05-26-1976

Issued: 01-17-2024



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	24-11142	01-03-2025
PROJECT DESIGNER	24-11144	01-04-2025
MANAGEMENT PLANNER	24-11143	01-03-2025



Asbestos

**Larry Johnson, Jr.
Labor Commissioner**

**THIS PAGE
INTENTIONALLY
LEFT BLANK**



HAZARDOUS BUILDING MATERIALS SURVEY

PREPARED FOR:

Iowa Department of Administrative Services
109 SE 13th Street
Des Moines, Iowa 50319

PROJECT LOCATION:

Woodward Resource Center – Phase 4 Decentralization Project #9279
Powerhouse Building
1251 334th Street
Woodward , Iowa

Project Date: September 25, 2024

Report Date: December 16, 2024

Atlas Project ID: 204BS07475

PREPARED BY:

Atlas Technical Consultants LLC
4503 East 50th Street, Suite 800
Des Moines, IA 50317



December 16, 2024

Ms. Jennifer Kleene
Iowa Department of Administrative Services
109 SE 13th Street
Des Moines, IA 50319

Re: Hazardous Building Materials Survey Report – Powerhouse Building
Woodward Resource Center – Phase 4 Decentralization Project #9279
1251 334th Street
Woodward, Iowa 50276
Atlas Project Number: 204BS07475

Atlas is pleased to submit the attached Hazardous Building Materials Survey Report for the above-referenced site. This report includes procedures, methodologies and analytical laboratory results.

Atlas appreciates the opportunity to perform these services for the Iowa Department of Administrative Services (IDAS), and we look forward to working with you in the future. If you need any assistance with the implementation of the recommendations contained in this report, please feel free to give us a call at (515) 981-4528 and we will respond promptly to your needs.

Sincerely,

ATLAS TECHNICAL CONSULTANTS LLC

A handwritten signature in blue ink that reads "Eric Brown".

Eric Brown
Iowa Inspector
(515) 981-4528

A handwritten signature in blue ink that reads "Steve Hudson".

Steve Hudson, MS, CIH
Senior Project Manager
(402) 670-3842

T A B L E O F C O N T E N T S

LETTER OF TRANSMITTAL	i
1.0 SCOPE OF SERVICES	4
2.0 GENERAL SITE CONDITIONS.....	4
3.0 ASBESTOS SURVEY	4
3.1 Regulation Review	5
3.2 Homogeneous Areas	5
3.3 Sampling Strategy	5
3.4 Laboratory Analytical Results.....	6
3.5 Suspect Asbestos-Containing Materials.....	6
4.0 LEAD PAINT CHIP TESTING	7
4.1 Inspection	7
4.2 Lead Paint Testing	8
5.0 HAZARDOUS MATERIALS ASSESSMENT.....	9
6.0 CONCLUSIONS	10
6.1 Asbestos.....	10
6.2 Lead	10
6.3 Hazardous Building Materials.....	10
7.0 ASSUMPTIONS AND LIMITATIONS.....	10

APPENDICES

APPENDIX A:	Asbestos Analytical Report and Chain of Custody
APPENDIX B:	Lead Analytical Report and Chain of Custody
APPENDIX C:	Drawings with Sample Locations
APPENDIX D:	Asbestos and Lead Paint Photo Logs
APPENDIX E:	Inspector Accreditations





HAZARDOUS BUILDING MATERIALS SURVEY REPORT

Woodward Resource Center – Powerhouse Building
Phase 4 Decentralization Project #9279
1251 334th Street
Woodward, Iowa
Atlas Project Number: 204BS07475

1.0 SCOPE OF SERVICES

The purpose of this project was to perform a survey to identify hazardous building materials at the above-referenced property.

Atlas provided a representative asbestos survey in accordance with the referenced agreement and as outlined below:

1. Review any existing hazardous building material survey reports relating to the site, if available.
2. Identify suspect asbestos-containing materials (ACM), surface coatings potentially containing lead paint, and hazardous building materials throughout the interior and exterior of the building, not including the roof.
3. Collect and analyze bulk samples of suspect asbestos containing materials and collect paint chip samples from representative surface coatings potentially containing lead-based or lead-containing paint.
4. Provide laboratory analysis of collected samples.
5. Provide a report of findings with copies and interpretation of analytical results and identifying the locations of asbestos-containing materials, lead paint, and hazardous building materials.

2.0 GENERAL SITE CONDITIONS

The survey was conducted at the Woodward Resource Center – Powerhouse Building located at 1251 334th Street in Woodward, Iowa. The survey was limited to the areas to be disturbed as part of planned renovation activities.

3.0 ASBESTOS SURVEY

On September 25, 2024, the Powerhouse Building was inspected for ACMs by inspector Eric Brown of Atlas. Mr. Brown has completed the requisite training for asbestos accreditation as inspectors at a state approved training provider under TSCA Title II. Mr. Brown's State of Iowa Inspector number is 24-11418.

Accessible areas were visually inspected for the presence of suspect ACMs. Materials that were hidden, not accessible, or when sampled would damage the integrity of the structure, were not sampled as part of this survey. Materials visibly identified as non-asbestos (fibrous glass, foam



rubber, wood, etc.) were not sampled. The asbestos survey consisted of three basic steps: **1)** a visual inspection of the proposed work areas; **2)** a determination of homogeneous areas with suspect surfacing, thermal system insulation, and miscellaneous materials; and **3)** sampling accessible, friable and non-friable, suspect materials.

3.1 Regulation Review

The United States Environmental Protection Agency (USEPA) qualifies ACM as materials with an asbestos content greater than 1%. The following definitions are taken from Section 61.141 of Subpart M, Part 61 of Title 40: Protection of Environment of the Code of Federal Regulations (CFR).

- “Category I non-friable ACM” is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1% asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy (PLM).
- “Category II non-friable ACM” is defined as any material, excluding Category I non-friable ACM, containing more than 1% asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, PLM that, when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.
- “Friable asbestos material” is defined as any material containing more than 1% asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, PLM that when dry, **can** be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10% as determined by a method other than point counting by PLM, verify the asbestos content by point counting using PLM.

3.2 Homogeneous Areas

Prior to sampling, homogeneous areas were identified in order to facilitate a sampling strategy. A homogeneous sampling area can be described as one or more areas with suspect material similar in appearance and texture that have the same installation date and function. The actual number of samples collected from each homogeneous sampling area may vary, dependent upon material type and the professional judgment of the inspector.

3.3 Sampling Strategy

The sampling strategy incorporated Asbestos Hazard Emergency Response Acts (AHERA) requirements, quantities of suspect material, and the inspector’s judgment to aid in the identification of suspect asbestos-containing materials. If the analytical results indicated that all the samples collected per homogeneous area did not contain asbestos, then the homogeneous area (material) was considered non-asbestos-containing. However, if the analytical results of one or more of the samples collected per homogeneous area indicated that asbestos was present in quantities greater than one percent asbestos (as defined by EPA), all of the homogeneous area (material) was treated as an asbestos-containing material regardless of any other analytical results. Materials which were visually determined to be non-asbestos (i.e. fibrous glass, foam rubber, etc.) by the accredited inspector were not required to be sampled. Actual collection of a bulk asbestos sample involves



physically removing approximately one square inch (1 in²) of material and placing it in an airtight sample container. Sample containers were marked with a unique identification number, which was documented in the field notes.

3.4 Laboratory Analytical Results

A total of **nine** samples were collected from building materials suspected of containing asbestos. The samples were submitted under chain of custody to EMSL Analytical, Inc. (EMSL) located at 200 Route 130 North in Cinnaminson, New Jersey, for analysis by polarized light microscopy (PLM) with dispersion staining techniques per the *USEPA Method for the Determination of Asbestos in Bulk Building Materials (600/R-93-116)*. The percentage of asbestos, if applicable, was established by microscopic visual estimation. EMSL is an accredited laboratory by the National Voluntary Laboratory Accreditation Plan (NVLAP) No. 101048-0. Any material that contains greater than one percent (>1%) asbestos is considered an ACM and must be handled according to Occupational Safety and Health Administration (OSHA), USEPA, and all applicable state and local regulations.

Laboratory test results are provided in Appendix A.

3.5 Suspect Asbestos-Containing Materials

The following table contains a list of suspect asbestos containing materials sampled:

TABLE 1: SUSPECT ASBESTOS MATERIALS		
Material	Location	Sample Number
Caulk – Brittle (red paint over gray caulk)	Exterior – North Door	P-1
White Caulk	Basement, North Storage Room – South Wall	P-2
Black Tar	Exterior, West Wing – West Wall	P-3
Window Glazing (white)	1 st Floor, North Room – West Window	P-4
Window Caulk	North Room – West Window	P-5
Brick Mortar	North Room – South Wall	P-6
White Caulk	1 st Floor – Restroom	P-7
Window Glazing	2 nd Floor, North Wing – East Window	P-8
White TSI Sealant	1 st Floor, North Wing, West Side – Large Pipe	P-9

The following table is a summary of the suspect asbestos-containing materials that have been determined, through laboratory analysis, to contain asbestos:



TABLE 2: ASBESTOS-CONTAINING MATERIALS				
Sample Number	Material	Location	Approx. Quantity	Asbestos Content
P-1	Caulk – Brittle (red paint over gray caulk)	Exterior – North Door	60 LF	5% Chrysotile
P-4, P-8	Window Glazing (white)	1 st and 2 nd Floors - Windows	29 windows	4-5% Chrysotile
SF = Square Feet, LF = Linear Feet				

4.0 LEAD PAINT CHIP TESTING

Atlas collected paint chip samples from representative surface coatings that may be impacted by renovation activities.

Surface coatings that were collected were considered to be representative of materials in a homogeneous area if:

1. They exhibited similar physical characteristics (suspect materials alike in appearance, substrate, color, and time of application were tested as homogenous areas)
2. The application of the tested surface could be associated to an application of an unsampled surface.

Atlas collected and submitted a total of **five** paint chip samples from surface coatings. The samples were submitted to EMSL of Cinnaminson, New Jersey, under proper chain of custody for analysis by Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B). EMSL is accredited under the American Industrial Hygiene Association-Laboratory Accreditation Program (AIHA-LAP, LLC) (AIHA-LAP; lab code 100194). A copy of the analytical results and chain of custody can be found in Appendix B.

The USEPA has defined LBP as “*paint or other surface coatings that contain lead in excess of 0.5 percent by weight (>0.5%)*”. Results less than 0.5% by weight indicate that lead is not present at or above the USEPA regulatory level; however, lead was present in lower concentrations above the laboratory detection limit in other surfaces tested and these are classified as lead-containing paint (LCP). Negative results do not mean that lead is not present.

4.1 Inspection

The disturbance and disposal of materials with surface coatings that contain lead paint are regulated by the USEPA, OSHA and the State of Iowa. The Resource Conservation and Recovery Act (RCRA) provides the USEPA with the authority to regulate the waste status of demolition or renovation debris, including lead-containing materials. Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes.



Construction work covered by 29 CFR 1926.62 includes any repair, renovation or other activities that disturb in-place, lead-containing materials, but does not include routine cleaning and repainting where there is insignificant damage, wear or corrosion of existing lead-containing coatings or substrates. Unless adequately protected, employee exposures to lead must not exceed airborne concentrations >50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) averaged over an 8-hour period.

Occupational exposure to lead occurring in the course of construction work, including maintenance activities, painting, alteration and repairs is subject to the OSHA Lead standard (29 CFR 1926.62). The lead standard applies to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending upon the method of removal and other workplace conditions.

The disposal of lead-based paint waste, as well as paint waste containing other heavy metals, is regulated by the USEPA and State of Iowa. Wastes generated by industrial businesses, commercial businesses, and government institutions are subject to regulation. Commercial business owners and removal contractors are required to determine if paint waste generated from nonresidential structures (such as public and commercial buildings, warehouses, bridges, water towers, and transmission towers) contains heavy metals that would cause the debris to be considered a hazardous waste. Disposal options and applicable management requirements for collected debris will be based upon whether the waste stream is considered a hazardous waste and the amount of debris generated. Removal contractors and building owners need to include these factors when preparing and responding to bid specifications. Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes. Lead-containing wastes are considered hazardous waste under RCRA if Toxicity Characteristic Leachate Procedure (TCLP) results exceed 5 milligrams per liter (mg/L). The USEPA has made exceptions for the handling and disposal of lead wastes generated from residential housing.

Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes. Lead-containing wastes are considered hazardous waste under RCRA if Toxicity Characteristic Leachate Procedure (TCLP) results exceed 5 milligrams per liter (mg/L). The USEPA has made exceptions for the handling and disposal of lead wastes generated from residential housing.

The above overview is not intended to be inclusive of all potentially pertinent regulatory information. The relevant USEPA, OSHA and State of Iowa regulations should be consulted prior to undertaking activities involving the demolition, renovation or maintenance of surface coatings that contain lead.

4.2 Lead Paint Testing

The following surface coatings were collected as part of the lead paint testing:



TABLE 3: LEAD PAINT SUMMARY				
Sample Number	Sample Location	Representative Material	Paint Color	Lead Concentration (% by weight)
PPC-1	1st Floor North Handrail	Metal	Yellow	20
PPC-2	South Coal Burner West Side	Metal	Off-White	0.32
PPC-3	North Room Floor	Concrete	Red	1.0
PPC-4	North Room, South Coal Burner	Metal	Green	3.2
PPC-5	2 nd Floor, Top of North Stairs	Metal	Gray	0.034

bolded = lead-based paint

This evaluation report can help the Owner develop a plan for renovating the building by having concentrations of lead in the paint identified. It is our understanding that the information in this report will be provided to the contractors so that appropriate precautions can be made to minimize worker exposure to lead. If surface coatings with lead containing paint are handled improperly, exposure could occur to workers and future occupants of the facility.

5.0 HAZARDOUS MATERIALS ASSESSMENT

Atlas completed a visual inspection of rooms / areas throughout the intended work areas in an attempt to identify hazardous wastes or universal wastes that may be impacted by planned renovation activities. The survey included a visual inspection of: light fixtures and other equipment for the presence of Polychlorinated Biphenyls (PCBs); light bulbs, thermostats, switches, and other equipment for the presence of mercury; refrigerants, batteries, and devices with potential radioactive materials.

TABLE 4: HAZARDOUS BUILDING MATERIALS		
Category	Material	Estimated Quantity
Batteries	Lead Acid	NA
	Nickel Cadmium	97
	Lithium-Ion	NA
Mercury	Thermostats	NA
	Fluorescent Light Tubes	11
	High Intensity Discharge Bulbs	NA
	Strobes	NA
Poly-Chlorinated Biphenyl (PCBs)	Light Ballasts	5 in Shop/Garage
	Transformers	NA



TABLE 4: HAZARDOUS BUILDING MATERIALS		
Category	Material	Estimated Quantity
Low Level Radioactive Sources (LLR)	Tritium Exit Signs	NA
	Smoke Detectors	26
Chlorofluorocarbons (CFCs) or Hydro Chlorofluorocarbons (HCFCs)	Refrigerator/Cooler	NA
	Freezer	NA
	Water Fountain	NA

6.0 CONCLUSIONS

6.1 Asbestos

The NESHAP and OSHA regulations govern the removal of ACM. Atlas recommends that a State of Iowa certified abatement contractor be retained to properly abate and dispose of ACM identified in Table 1 above and in accordance with local, state, and federal regulations.

The owner and/or operator are responsible for NESHAP regulatory compliance regarding the proper removal, handling, and disposal of ACM containing >1% asbestos prior to renovation or demolition. Also, per state regulations, please be aware that the owner and/or operator must submit a notification to the Iowa Department of Natural Resources (IDNR) 10-business days prior to asbestos abatement at certain quantity thresholds and prior to renovation/demolition activities.

6.2 Lead

Lead was identified above the laboratory detection limit in all five of the surface coatings tested.

Contractors should use caution during construction-related activities as concealed surface coatings containing lead-based paints that were not previously tested may be encountered. If materials not sampled during this investigation are later identified to contain regulated quantities of lead concentrations, then they should be removed, controlled and/or disposed in accordance with federal, state and local regulations, prior to disturbance. OSHA considers any detectable level of lead as LCP and disturbance of these surface coatings is subject to the training and work practices in OSHA 29 CFR 1926.62 “Lead in Construction”.

6.3 Hazardous Building Materials

Hazardous materials or universal wastes identified in Table 4 that will be impacted by renovation activities shall be removed as part of the renovation contractor’s scope of work and disposed of according to USEPA Toxic Substances Control Act (TSCA) and the State of Iowa regulations.

7.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based



solely on conditions noted during the September 25th, 2024, Atlas hazardous building materials survey of the Woodward Resource Center – Powerhouse Building in Woodward, Iowa.

Atlas did not perform destructive sampling -- it was not within Atlas's scope of work to remove surface materials to investigate portions of the structure or materials that may lay beneath the surface -- thus, any materials that could not be visually identified on the surface were not inspected and would not be noted in this report. Atlas's selection of sample locations and frequency of sampling was based on the inspector's assumption that like materials in the same area are homogeneous in content.

The report is designed to aid the building owner, architect, construction manager, general contractor, and potential abatement contractor in locating hazardous building materials. Under no circumstances is the report to be utilized as a bidding document or as a project specification document since it does not have all the components required to serve as a Project Design document or an Abatement Work plan.

Our professional services have been performed, our findings obtained, and our conclusions and recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

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

Atlas recommendations are based in part on federal, state, local regulations, and guidelines. Atlas does not undertake responsibility for reporting to any local, state, or federal public agencies of conditions at the site that may present a potential danger to public health or safety. Atlas recommends that the Client comply with regulations and response actions in accordance with federal, state, and local regulations.

APPENDIX A

ASBESTOS ANALYTICAL RESULTS AND CHAIN OF CUSTODY



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order: 042420696

Customer ID: ATC55

Customer PO:

Project ID:

Attention: Eric Brown
Atlas Technical
11117 Mockingbird Drive
Omaha, NE 68137

Phone: (402) 697-9747

Fax: (402) 597-8532

Received Date: 10/04/2024 9:20 AM

Analysis Date: 10/06/2024

Collected Date: 09/25/2024

Project: 204BS07475 / Woodward Tunnel Survey / Powerhouse

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
P-1 <i>042420696-0001</i>	Exterior - North Door - Grey Caulk - Brittle	Gray/Tan/White Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
P-2 <i>042420696-0002</i>	Basement - North Storage Room - South Wall - White Caulk	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
P-3 <i>042420696-0003</i> <i>Inseparable paint / coating layer included in analysis</i> <i>Sample is caulk.</i>	Exterior - W Wing W Wall - Black Tar	Gray/Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
P-4 <i>042420696-0004</i>	Floor 1 - N Room W Window - Window Glazing - White	White Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
P-5 <i>042420696-0005</i>	Floor 1 - N Room W Window - Window Caulk	Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
P-6 <i>042420696-0006</i>	Floor 1 - N Room S Wall - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
P-7 <i>042420696-0007</i>	Floor 1 - Restroom - White Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
P-8 <i>042420696-0008</i>	Floor 2 - N Wing E Window - Window Glazing	Gray/Red Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
P-9 <i>042420696-0009</i> <i>Result includes a small amount of inseparable attached material</i>	Floor 1 - N Wing W Side LG Pipe - White TSI Sealant	Brown/White Fibrous Heterogeneous	15% Cellulose 10% Glass	75% Non-fibrous (Other)	None Detected

Analyst(s)

Hunter Kelly (9)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This 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. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, PA ID# 68-00367, LA #04127

Initial report from: 10/07/2024 07:41:47



EMSL ANALYTICAL, INC. LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042420696

EMSL Analytical, Inc.

Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
EMAIL: c@emsl.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information and Billing Information section containing company name (Atlas Technical), contact name (Steve Hudson), address (11117 Mockingbird Drive, Omaha, NE 68137), and phone number (402-697-9747).

Project Information

Project Name: WOODWARD TUNNEL SURVEY, Project ID: 204BS07475, US State where samples collected: IA, State of Connecticut (CT) must select project location: Commercial (Taxable) and Residential (Non-Taxable).

Sampled By Name: ERIC BROWN, Sampled By Signature: Eric Brown, No. of Samples in Shipment: 9

Turn-Around-Time (TAT) selection: 3 Hour, 4-4.5 Hour, 6 Hour, 24 Hour, 32 Hour, 48 Hour (checked), 72 Hour, 96 Hour, 1 Week, 2 Week.

Test Selection section including PCM Air, TEM - Air, TEM - Bulk, TEM - Settled Dust, and Soil - Rock - Vermiculite (reporting limit) options.

Filter Pore Size (Air Samples) selection: 0.8um, 0.45um.

Table with columns: Sample Number, Sample Location / Description, Volume, Area or Homogeneous Area, Date / Time Sampled (Air Monitoring Only). Includes handwritten text 'See the other sheets'.

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment, Sample Condition Upon Receipt, Relinquished by (Eric Brown), Date/Time (10/3/24), Received by (Angie O'Neil), Date/Time (10/4/24).

Controlled Document - COC-05 Asbestos R15 4/23/2021. AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.) EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety.

RECEIVED
EMSL ANALYTICAL, INC. NJ
2024 OCT 11 A 11:25

Handwritten circled number 9 and initials.

042420696

ASBESTOS BULK SAMPLE FORM



11117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747
Fax (402) 597-8532

Project Information

Client:	Project Description: POWERHOUSE	Project Manager: SM Inspector: EB
Date: 9/25/24	Site Location: WOODWARD	ATLAS PROJECT NUMBER: 2048507475

Sample #	Material Description	Floor	Sample Location	Quantity
P-1	Gray Caulk - Brittle	E	North door	
P-2	WHITE CAULK	B	NORTH STORAGE ROOM SOUTH WALL	
P-3	BLACK TAR	E	W. WING W. WALL	
P-4	WINDOW GLAZING WHITE	1	N. ROOM W. WINDOW	
P-5	WINDOW CAULK	1	-	
P-6	BRICK MORTAR	1	N. ROOM S. WALL	
P-7	WHITE CAULK	1	RESTROOM	
P-8	WINDOW GLAZING	2	N. WING E. WINDOW	
P-9	TSE WHITE SEALANT	1	N. WING W. SIDE LG PIPE	

RECEIVED
 ENSL
 CANNAMONSON, NJ
 2024 OCT -14 A 11:25

APPENDIX B

LEAD PAINT ANALYTICAL RESULTS AND CHAIN OF CUSTODY

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
 Telephone: 856-858-4800 Fax:856-786-5974
 EMSL-CIN-01

EMSL Order ID: 012432578
LIMS Reference ID: AC32578
EMSL Customer ID: ATC55

Attention: Steve Hudson
 Atlas Technical [ATC55]
 11117 Mockingbird Drive
 Omaha, NE 68137
 (402) 697-9747
 steve.hudson@oneatlas.com

Project Name: Powerhouse / Woodward Tunnel Survey /
 204BS07475
Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 10/04/2024 10:00
Reported: 10/08/2024 09:19

Analytical Results

Analyte	Results	RL	Weight(g)	Prep Date & Tech	Prep Method	Analysis Date & Analyst	Analytical Method	Q	DF
Client Sample ID: PPC-1/N. Handrail - Metal - Yellow							Date Sampled: 09/25/24		
Matrix: Chips							LIMS Reference ID: AC32578-01		
Lead	20 % wt	0.76 % wt	0.262	10/07/24 LP	SW-846 3050B	10/07/24 PMx	SW846-7000B	D	100
Sample Comments:									
Client Sample ID: PPC-2/S. Coal Burner W. Side - Metal - Off White							Date Sampled: 09/25/24		
Matrix: Chips							LIMS Reference ID: AC32578-02		
Lead	0.32 % wt	0.008 % wt	0.2535	10/07/24 LP	SW-846 3050B	10/07/24 PMx	SW846-7000B	Pb2	1
Sample Comments:									
Client Sample ID: PPC-3/N. Room - Concrete - Red							Date Sampled: 09/25/24		
Matrix: Chips							LIMS Reference ID: AC32578-03		
Lead	1.0 % wt	0.040 % wt	0.2529	10/07/24 LP	SW-846 3050B	10/07/24 PMx	SW846-7000B	D	5
Sample Comments:									
Client Sample ID: PPC-4/N. Room S. Coal Burner - Metal - Green							Date Sampled: 09/25/24		
Matrix: Chips							LIMS Reference ID: AC32578-04		
Lead	3.2 % wt	0.073 % wt	0.2728	10/07/24 LP	SW-846 3050B	10/07/24 PMx	SW846-7000B	D	10
Sample Comments:									
Client Sample ID: PPC-5/Top of N. Stairs - Metal - Gray							Date Sampled: 09/25/24		
Matrix: Chips							LIMS Reference ID: AC32578-05		
Lead	0.034 % wt	0.008 % wt	0.2507	10/07/24 LP	SW-846 3050B	10/07/24 PMx	SW846-7000B		1
Sample Comments:									

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
 Telephone: 856-858-4800 Fax:856-786-5974
 EMSL-CIN-01

EMSL Order ID: 012432578
LIMS Reference ID: AC32578
EMSL Customer ID: ATC55

Attention: Steve Hudson
 Atlas Technical [ATC55]
 11117 Mockingbird Drive
 Omaha, NE 68137
 (402) 697-9747
 steve.hudson@oneatlas.com

Project Name: Powerhouse / Woodward Tunnel Survey /
 204BS07475
Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 10/04/2024 10:00
Reported: 10/08/2024 09:19

Certified Analyses included in this Report

Analyte	Certifications
SW846-7000B in Chips	
Lead	AIHA LAP

List of Certifications

Code	Description	Number	Expires
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2025
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
NYSDOH	New York State Department of Health	10872	04/01/2025
California ELAP	California Water Boards	1877	06/30/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2026
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2024
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2025
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2026

Please see the specific Field of Testing (FOT) on www.emsl.com <<http://www.emsl.com>> for a complete listing of parameters for which EMSL is certified.

Notes and Definitions

Item	Definition
D	Analyte was reported from a dilution run.
Pb2	The MS recovery for Lead was outside of the method control limits due to matrix bias.
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
NR	Spike/Surrogate showed no recovery.
Q	Qualifier
RL	Reporting Limit For paint chips, the RL is 0.008% by wt. (equiv. to 80 mg/kg, or ppm) based upon a minimum sample weight of 0.25 grams. For soils, the RL is 40 mg/kg (ppm) based upon a minimum sample weight of 0.5 grams. For dust wipes, the RL is 10 µg/wipe; reporting units of µg/sq. ft. are not validated by the lab based upon data provided by non-lab personnel.
Wet	Sample is not dry weight corrected.

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.



EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012432578
LIMS Reference ID: AC32578
EMSL Customer ID: ATC55

Attention: Steve Hudson
Atlas Technical [ATC55]
11117 Mockingbird Drive
Omaha, NE 68137
(402) 697-9747
steve.hudson@oneatlas.com

Project Name: Powerhouse / Woodward Tunnel Survey /
204BS07475

Customer PO:
EMSL Sales Rep: Anthony DeRosa
Received: 10/04/2024 10:00
Reported: 10/08/2024 09:19

Owen McKenna Laboratory Manager or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. QC sample results are within quality control criteria and met method specifications unless otherwise noted. All results for soil samples are reported on a dry weight basis, unless otherwise noted.

Analysis following EMSL SOP for the Determination of Environmental Lead by FLAA. The laboratory has a reporting limit of 0.008% by wt., based upon a minimum sample weight of 0.25g submitted to the lab, and is not responsible for any result or reporting limit provided in mg/cm² since it is dependent upon an area value provided by non-lab personnel. A "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty and definitions of modifications are available upon request. Results in this report are not blank corrected unless specified.



Lead Chain of Custody

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675

EMAIL: CinnaminsonLeadLab@emsl.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

AC32578

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name: Steve Hudson	Billing Contact: Steve Hudson
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha, NE, 68137 Country: USA	City, State, Zip: Omaha, NE, 68137 Country: USA
	Phone: 402-697-9747	Phone: 402-697-9747
Email(s) for Report: steve.hudson@oneatlas.com	Email(s) for Invoice:	

Project Information			
Project Name/No: <u>WOODWARD TUNNEL SURVEY</u>	<u>204B507475</u>	Purchase Order:	
EMSL LIMS Project ID: (if applicable, EMSL will provide)	US State where samples collected:	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)	
Sampled By Name: <u>ERIC BROWN</u>	Sampled By Signature: <u>[Signature]</u>	No. of Samples in Shipment: <u>5</u>	

Turn-Around-Time (TAT)

3 Hour 6 Hour 24 Hour 32 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only, samples must be submitted by 11:30am.

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
CHIPS <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> ppm (mg/kg) <input type="checkbox"/> mg/cm ²	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	<input checked="" type="checkbox"/>
	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	<input type="checkbox"/>
AIR	NIOSH 7082	Flame Atomic Absorption	4µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-OES	1.0µg/filter	<input type="checkbox"/>
	NIOSH 7303M	ICP-MS	0.05µg/filter	<input type="checkbox"/>
WIPE <input type="checkbox"/> ASTM <input type="checkbox"/> NON-ASTM	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	<input type="checkbox"/>
If no box is checked, non-ASTM Wipe is assumed	SW 846-6010D	ICP-OES	1.0µg/wipe	<input type="checkbox"/>
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1311 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW 846-1312 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTL	22 CCR App. II, 7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	<input type="checkbox"/>
	SW 846-6010D*	ICP-OES	2mg/kg (ppm)	<input type="checkbox"/>
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Preserved with HNO ₃ <input type="checkbox"/> PH<2	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
Drinking Water	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
Unpreserved <input type="checkbox"/>				<input type="checkbox"/>
Preserved with HNO ₃ <input type="checkbox"/> PH<2				<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>

RECEIVED
EMSL
CINNAMINSON, NJ

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
	SEE OTHER SHEET		

Method of Shipment:	Sample Condition Upon Receipt:
Relinquished by: <u>[Signature]</u>	Received by: <u>RJA EFX</u>
Date/Time: <u>10/3/24 12:00</u>	Date/Time: <u>10/4/24 10AM</u>
Relinquished by:	Received by:
Date/Time:	Date/Time:

Controlled Document - C0C-25 Lead R18 04/04/2024

*6010C Available Upon Request

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

5
RJA

AC32578

PAINT CHIP SAMPLE LOG SHEET



11117 Mockingbird Drive
Omaha, NE 68137

Phone (402) 697-9747

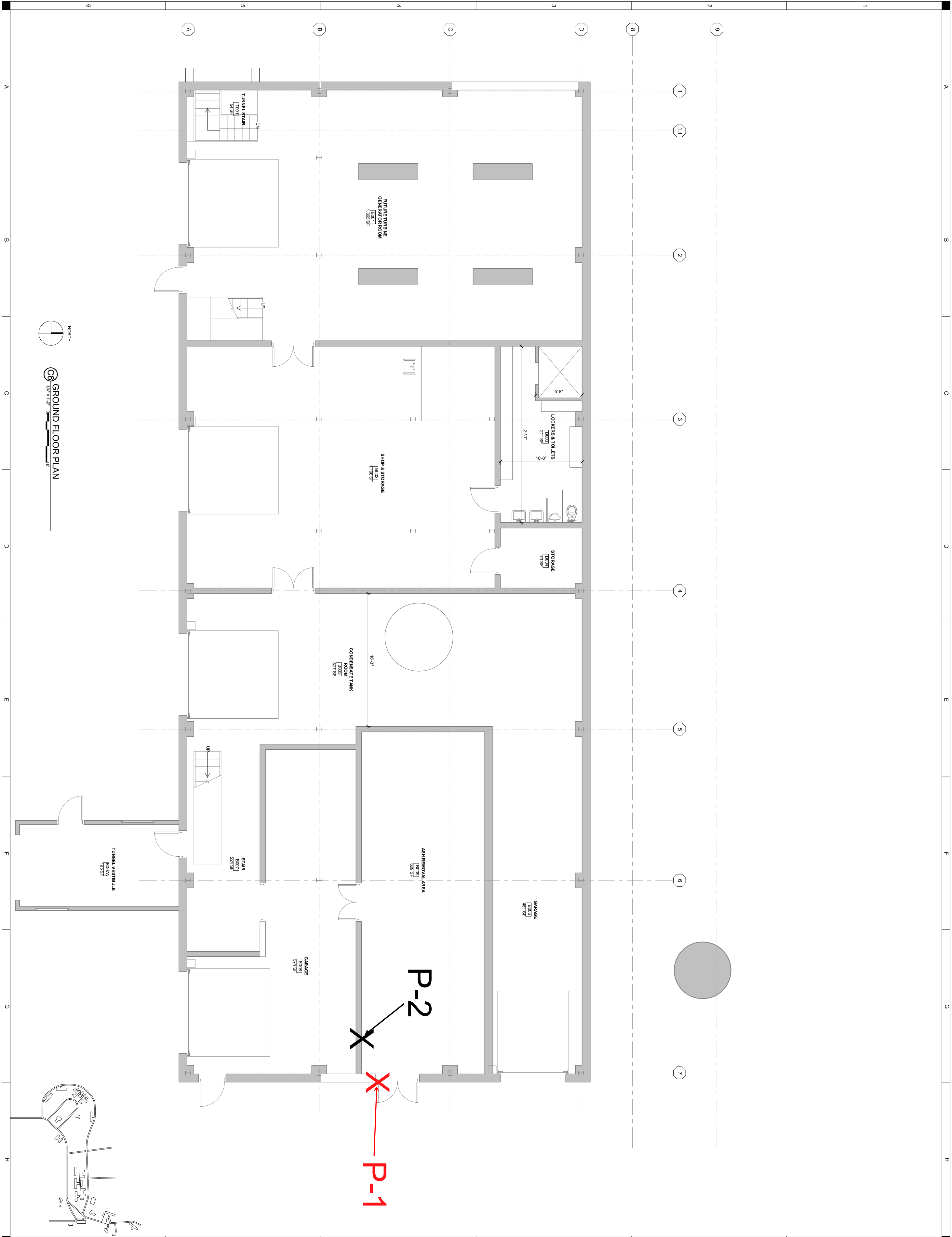
Project Information

Client:	Project Description: POWERHOUSE	Project Manager: SK Inspector: EB
Date: 9/25/24	Site Location: WOODWARD	ATLAS PROJECT NUMBER: 204BS07475

Sample #	Paint Color	Substrate	Sample Location	Quantity
PPC-1	YELLOW	METAL	N. HANDRAIL	
PPC-2	OFF WHITE	METAL	S. COAL BURNER W. SIDE	
PPC-3	RED	CONCRETE	N. ROOM	
PPC-4	GREEN	METAL	N. ROOM S. COAL BURNER	
PPC-5	GRAY	METAL	TOP OF N. STAIRS	

RECEIVED
 EMSL
 CINNAMINSON, NJ
 24 OCT -4 AM 9:29

APPENDIX C
DRAWINGS WITH SAMPLE LOCATIONS

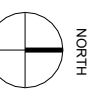
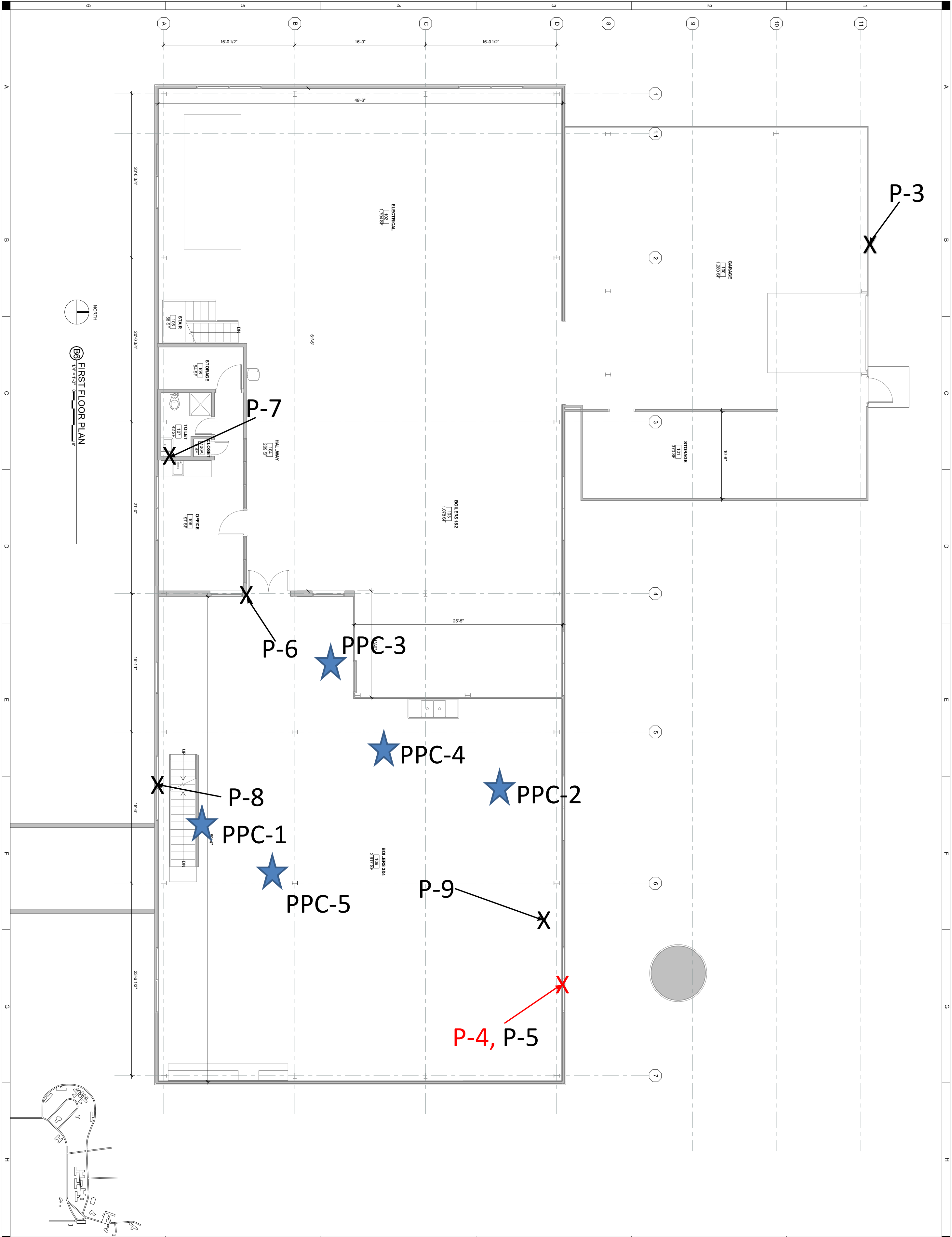


GROUND FLOOR PLAN
 18-A101

DRAWN BY	EIP
APPROVED BY	CLM
ISSUED FOR	REVIEW
ISSUE DATE	10/10/2024
PROJECT NUMBER	2240007040
FIELD BOOK	FieldBook

**PRELIMINARY
 - NOT FOR
 CONSTRUCTION**

WRC Decentralization Phase 4
 18 - Power House
 Iowa Department of Administrative Services
 1251 334th St, Woodward, IA 50276



B6 FIRST FLOOR PLAN
 1/4" = 1'-0"

DRAWN BY	EIP
APPROVED BY	CLM
ISSUED FOR	REVIEW
ISSUE DATE	10/10/2024
PROJECT NUMBER	2240007040
FIELD BOOK	FieldBook

**PRELIMINARY
 - NOT FOR
 CONSTRUCTION**

APPENDIX D

ASBESTOS AND LEAD PAINT PHOTO LOGS



View of the Powerhouse.

1



View of the Asbestos Containing White, Brittle Caulk. (P-1, 5% Chrysotile)

2

<p>Photograph Log Powerhouse 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
---	--



View of the Asbestos Containing Window Glazing. (P-4, 4% Chrysotile)

3



View of the Asbestos Containing Window Glazing. (P-8, 5% Chrysotile)

4

<p>Photograph Log Powerhouse 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
---	--



View of the Powerhouse.

1



View of the Yellow Lead Based Paint. (PC-1, 20% Pb)

2

<p>Photograph Log Powerhouse 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
---	--



View of the Off-White Lead Containing Paint. (PC-2, 0.32% Pb)

3



View of the Red Lead Based Paint. (PC-3, 1.0% Pb)

4

<p>Photograph Log Powerhouse 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
---	--



View of the Green Lead Based Paint. (PC-4, 3.2% Pb)

5



View of the Gray Lead Containing Paint. (PC-5, 0.034% Pb)

6

<p>Photograph Log Powerhouse 1251 334th Street Woodward, Iowa</p>	<p>Atlas Technical Consultants, LLC 4503 East 50th Street, Suite 800, Des Moines, IA 50317 (515) 981-4528 Project No. 204BS07475</p>
---	--

APPENDIX E
INSPECTOR ACCREDITATIONS

ERIC BROWN

DOB: 05-07-1970

Issued: 02-27-2024



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	24-11418	02-09-2025



Asbestos

A handwritten signature in black ink, enclosed in a rectangular box. The signature appears to read "Larry Johnson, Jr.".

**Larry Johnson, Jr.
Labor Commissioner**

PHILLIP THOMAS

DOB: 05-26-1976

Issued: 01-17-2024



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	24-11142	01-03-2025
PROJECT DESIGNER	24-11144	01-04-2025
MANAGEMENT PLANNER	24-11143	01-03-2025



Asbestos

Larry Johnson, Jr.
Labor Commissioner

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 00 3143

PERMIT APPLICATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Permit Application Information
- B. Licenses, Permits, and Related Inspections

1.02 PERMIT APPLICATION INFORMATION

- A. State Building Code Plan Review: The plan review and inspections for this project have been applied for by the Architect. Please contact your inspector prior to construction and occupancy.
- B. State Building Code Energy Review: The energy code review and inspections for this project have been applied for by the Architect. Please contact your inspector prior to construction and occupancy.
- C. Boiler Permit and Inspections: Trade Contractor is responsible for permits and inspections.
- D. Electrical Permit and Inspections: Trade Contractor is responsible for permits and inspections.
- E. Other Applicable inspections: Trade Contractor is responsible for any other applicable project specific permits and inspections.

1.03 LICENSES, PERMITS, AND RELATED INSPECTIONS

- A. The Bidder shall comply with all codes, laws, ordinances, rules and regulations of any public authority having jurisdiction that bears on the performance of its work. All construction, materials and methods shall comply with the State Building Codes, except where plans and specifications establish a higher standard.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 00 4116

BID FORM

The Bid Form must be submitted online through the State's IMPACS Electronic Procurement System.

RFB #927940-01

BID FORM for CONSTRUCTION CONTRACT
for
Woodward Resource Center
1251 334th Street, Woodward, Iowa 50276
Project 9279.40

Iowa Department of Administrative Services
Hoover State Office Building, Level 3
1305 East Walnut Street
Des Moines, Iowa 50319-0105

The following information is to be completed and submitted with your bid..

1. Bid Form - Completed and Signed (to be uploaded with bid submission)
2. Non Discrimination Clause Information
3. Contractor Targeted Small Business Enterprise Pre-Bid Contract Information
4. Bid Security – 5% of total Bid amount (to be uploaded with bid submission)

Authorized Representative:

The undersigned Bidder, in response to your Request for Bid for construction of the above project, having examined the Drawings, Specifications, and other Bidding Documents dated March 14, 2025, and Addenda issued and acknowledged below as received and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, equipment and supplies to perform all work to construct the project in strict accordance with the proposed Contract Documents, within the time and at the prices stated below. Prices are to cover all expenses incurred in performing the work required under the proposed Contract Documents, of which this bid is a part.

Bidder acknowledges receipt of the following Addenda which are a part of the Bidding Documents and for which any effect on cost of the Work is included in the bid amounts indicated:

Number	_____	_____	_____	_____	_____
Dated	_____	_____	_____	_____	_____

Note that the State of Iowa is exempt from State and Local sales and use taxes (including local option and school option) for this project. Taxes on construction materials shall NOT be included in the bid amounts.

Amounts shall be indicated in both words and figures. In case of discrepancy, the amount indicated in words shall govern.

BID PACKAGES:

BP 01-1

Description: Decentralization Abatement

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____ Dollars
(\$_____).

BP 23-1

Description: Decentralization Mechanical

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____ Dollars
(\$_____).

BP 26-1

Description: Decentralization Electrical and Fire Alarm

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____ Dollars
(\$_____).

UNIT PRICES:

BP#26-1 Unit Price 01

Description: Smoke Detector

_____ Dollars
(\$_____).

BP#26-1 Unit Price 02

Description: Heat Detector

Dollars
(\$_____).

BP#26-1 Unit Price 03

Description: Duct Smoke Detector

Dollars
(\$_____).

BP#26-1 Unit Price 04

Description: Fire Alarm Relay

Dollars
(\$_____).

BP#26-1 Unit Price 05

Description: Ceiling Mounted Speaker Strobe

Dollars
(\$_____).

BP#26-1 Unit Price 06

Description: Ceiling Mounted Strobe

Dollars
(\$_____).

Bidder hereby certifies that:

1. This bid is genuine and is not made in the interest of or on behalf of any undisclosed person, firm or corporation;
2. Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain any advantage over any other bidder or over the Owner.
3. Bidder hereby certifies that the Bidder is registered with the Iowa Labor Commissioner as a Contractor as required by Chapter 91C, Code of Iowa.
4. Bidder agrees to comply with all Federal and State Affirmative Action/Equal Employment Opportunity requirements concerning fair employment and will not discriminate between or among them by reason of race, color, religion, sex, national origin or physical handicap.
5. All construction under this Contract shall conform to the requirements of the *Iowa State Building Code*.
6. Bidder agrees that this bid shall remain valid and shall not be withdrawn for a period of thirty (30) calendar days after the date for receipt of bids.
7. Bidder agrees that if written notice of acceptance of this bid is mailed, emailed, or delivered to the undersigned within thirty (30) days after the date in which bids are due, 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; and will also provide proof of insurance coverage and required surety bonds.
8. Bidder understands that the Owner reserves the right to reject any and all bids, and to waive irregularities or informalities and enter into a contract for the work, as the Owner deems to be in the best interest of the State.
9. Bidder understands that the Owner reserves the right to accept any, or no, Alternate Bid, if requested, and that the Alternate Bids may be considered in any order or combination, and the low Bidder shall be determined on the basis of the sum of the base bid and any Alternate(s) accepted.

Subcontractors:

The Trade Contractor must identify all Subcontractors and Suppliers within 48 hours of the published date and time for which bids must be submitted, in accordance with Iowa Code Section 8A311, as amended by House File 646 in 2011. Subcontractors and suppliers may not be changed without the approval of the Owner. Requests for changing a Subcontractor or supplier must identify the reason for the proposed change, the name of the new Subcontractor or supplier, and the change in the subcontractor or supplier price as a result of the change. Any reduction in subcontractor or supplier price as a result of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract Price via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.

Enforcement of Reciprocal Resident Bidder Preference, per Iowa Code 73A.21.

All bidders shall either check the box next to "Resident Bidder" or check the box next to "Nonresident Bidder" and by doing so and signing thereafter certifies and attests to the same. All information requested must be provided. Seek out the advice of an attorney if you have questions.

"Resident Bidder" means a person or entity authorized to transact business in of the State of Iowa and having a place of business for transacting business within the State of Iowa at which it is conducting and has conducted business for at least three years prior to the date of the first advertisement for the public improvement. Note, however, that if a nonresident bidder's state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable as to bidders from that state or foreign country.

Resident Bidder

Name of Resident Bidder: _____

By: _____
Authorized Agent and Signatory of Resident Bidder

OR:

Nonresident Bidder

Name of Nonresident Bidder: _____

Name of State or Foreign Country of Nonresident Bidder: _____

Particularly identify and describe any preference, labor preference, or any other type of preferential treatment, in effect in the nonresident bidder's state or foreign country at the time of this bid:

NOTICE: Nonresident Bidders domiciled in a state or country with a resident labor force preference shall make and keep, for a period of not less than three years, accurate records of all workers employed on the public improvement. The records shall include each worker's name, address, telephone number when available, social security number, trade classification, and the starting ending time of employment.

By: _____
Authorized Agent and Signatory of Nonresident Bidder

REQUIRED: Bid Form shall be signed by an officer of the company with authority to bind in a contract. Notice of acceptance of this bid, or request for additional information by the Department of Administrative Services, may be addressed to the undersigned at the address set forth below:

Legal Name of Firm: _____

Date: _____

Signature of Bidder: _____

Title: _____

Typed Name of Signatory: _____

Email: _____

Business Address:

Telephone Number: _____ Fax Number: _____

Federal Tax Identification Number: _____

Iowa Contractor Registration Number: _____

Bidder Safety Manager Name: _____

For an out-of-state Bidder, Bidder certifies that the Resident Preference given by the State or Foreign Country of Bidder's residence, _____, is _____ %.

END OF SECTION

SECTION 00 4116.01

NON-DISCRIMINATION CLAUSE

This Section is for informational purposes only. All information will be submitted online through the State's [IMPACS Electronic Procurement System](#).

PART 1 - GENERAL

All contractors, subcontractors, vendors and suppliers of goods and services doing business with the State of Iowa and value of said business equals or exceeds \$10,000 annually, agree as stated below.

1.01 NONDISCRIMINATION CLAUSE

- A. The contractor, subcontractor, vendor and supplier of goods and services will not discriminate against an employee or applicant for employment because of race, creed, color, sex, national origin, ancestry, religion, economic status, age, disability, political opinion, or affiliations of an applicant or employee based upon the nature of the job occupation. The contractor, subcontractor, vendor and supplier will develop an Affirmative Action Program to insure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex, national origin, ancestry, religion, economic status, age, disability, political opinions or affiliations. Such action shall include, but not be limited to the following:
 - 1. Employment.
 - 2. Upgrading.
 - 3. Demotion or transfer.
 - 4. Recruitment and advertising.
 - 5. Layoff or termination.
 - 6. Rates of pay or other forms of compensation.
 - 7. Selection for training, including apprenticeship.
- B. The contractor, subcontractor, vendor and supplier of goods and services will, in all solicitations or advertisements for employees, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, national origin, ancestry, religion, economic status, age, disability, political opinion or affiliations.
- C. The contractor, subcontractor, vendor and supplier or their collective bargaining representative will send to each labor union or representative or workers with which they have a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the contractor's commitments under this section.
- D. The contractor, subcontractor, vendor and supplier of goods and services will comply with all published rules, regulations, directives and orders of the State of Iowa Affirmative Action Program Contract Compliance Provisions.
- E. The contractor, subcontractor, vendor and supplier of goods and services will furnish and file compliance reports within such time and upon such forms as provided by the Equal Employment Opportunity Officer, said forms may elicit information as to the policies, procedures, patterns, and practices of each subcontractor as state as the contractor themselves and said contractor, subcontractor, vendor and supplier will permit access to their employment books, records and accounts to the State's Equal Employment Opportunity Officer, for the purpose of investigation to ascertain compliance with this Contract and with rules regulations of the State's Affirmative Action Program.
- F. In the event of the contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations and orders; this Contract may be canceled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further contracts in accordance with procedures authorized by the State of Iowa.

- G. The contractor, subcontractor, vendor and supplier of goods and services will include, or incorporate by reference, the provisions of the nondiscrimination clause in every contract, subcontract or purchase order unless exempted by the rules, regulations or orders of the State's Affirmative Action Program, and will provide in every subcontract or purchase order that said provisions will be binding upon each contractor, subcontractor or seller.
- H. The parties agree to comply with "Compliance with the Law; Nondiscrimination in Employment" of the current Terms and Conditions at the award of this contract. Current Terms and Conditions may be found on the following web site and are, by this reference, made a part of this Agreement. <https://das.iowa.gov/procurement/terms-and-conditions>
- I. We certify and recognize that we are morally and legally committed to nondiscrimination in employment. Any person who applies for employment with our company will not be discriminated against because of race, creed, color, sex, national origin, ancestry, religion, economic status, age or disabilities, unless disabilities are based upon the nature of the job occupation.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 00 4116.02

TARGETED SMALL BUSINESS INFORMATION

This Section is for informational purposes only. All information will be submitted online through the State's [IMPACS Electronic Procurement System](#).

PART 1 - GENERAL

1.01 TARGETED SMALL BUSINESS INFORMATION

- A. Subcontractor Targeted Small Business Enterprise Pre-Bid Contact Information, including subcontractor and dollar amount to be subcontracted, is to accompany the Bid submission. Bidders shall comply with all affirmative action/equal opportunity provisions of State and Federal laws. The Owner seeks to provide opportunities for Targeted Small Businesses in accordance with the provisions of Chapter 73 of the Code of Iowa.

- B. [Search the Targeted Small Business Directory](#) for certified State of Iowa Targeted Small Businesses.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
 SUBCONTRACTOR
 TARGETED SMALL BUSINESS ENTERPRISE
 PRE-BID CONTRACT INFORMATION

CONTRACTOR	BID NO.
(to be completed by bidder)	
PAGE #	

You are requested to provide the information on this form showing your targeted Small Business enterprises contracts made prior to your bid submission. This information is subject to verification and confirmation. NOTE: The Department of General Services will not regard your acceptance or use of a low quote or bid from a non-targeted Small Business Enterprise on any subcontract item as evidence itself of any lack of good faith effort to solicit targeted Small Business Enterprise subcontractors on this project. However, every effort shall be made to solicit quotes or bids on as many subcontractable items as necessary to evidence affirmative action in contracting.

TABLE OF INFORMATION SHOWING BIDDER'S PRE-BID TARGETED SMALL BUSINESS ENTERPRISE CONTACTS

SUBCONTRACTOR	TSB	DATES CONTACTED	QUOTES RECEIVED		QUOTATION USED IN BID	
			YES/NO	DATES	YES/NO	DOLLAR AMOUNT PROPOSED TO BE SUBCONTRACTED

Total dollar amount proposed to be subcontracted to TSB on this project \$ _____
 List items to be subcontracted. (If more space is needed, use reverse side.)

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 00 4313

BID SECURITY FORMS

PART 1 - GENERAL

1.01 BID SECURITY FORMS

- A. A Bid Bond form will be required on this project. An amended ConsensusDocs 262 is attached for reference following this page. ConsensusDocs bid bond form is not required (other standard forms are acceptable to the State of Iowa).

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**



**CONSENSUSDOCS 262
 BID BOND
 (AMENDED BY STATE OF IOWA)**

This document was developed through a collaborative effort of organizations representing a wide cross-section of the design and construction industry. The organizations endorsing this document believe it represents a fair allocation of risk and responsibilities for all project participants.

Endorsing organizations recognize that this document must be reviewed and adapted to meet specific needs and applicable laws. This document has important legal and insurance consequences. You are encouraged to consult legal, insurance and surety advisors before completing or modifying this document. The software includes a notes section indicating where information is to be inserted to complete this document. Further information and endorsing organizations' perspectives are available at www.consensusdocs.org/guidebook.

For Use with ConsensusDOCS 200, Standard Form of Agreement and General Conditions Between Owner and Constructor (Where the Contract Price is a Lump Sum) and ConsensusDOCS 500, Standard Agreement and General Conditions Between Owner and Construction Manager.

The Trade Contractor, _____ (the "Trade Contractor") has submitted a Bid to the Owner, _____ (the "Owner") for the _____ (the "Project") in accordance with the Bidding Documents, including Drawings and Specifications prepared by _____ (the "Design Professional").

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.
 ConsensusDOCS 262 • BID BOND Copyright © 2007, Revised 2009 and 2011, ConsensusDOCS LLC. AN INDIVIDUAL PURCHASE OF THIS DOCUMENT PERMITS THE USER TO PRINT ONE CONTRACT FOR ONE PROJECT ONLY. YOU MAY ONLY MAKE COPIES OF A COMPLETED DOCUMENT FOR DISTRIBUTION TO PARTIES IN DIRECT CONNECTION WITH THE SPECIFIC CONSTRUCTION PROJECT. ANY OTHER USES, INCLUDING COPYING THE DOCUMENT, ARE STRICTLY PROHIBITED.

By virtue of this Bid Bond (the "Bond"), the Constructor as Principal and _____ as Surety ("Surety"), are bound to the Owner as Oblige in the maximum amount _____, Dollars (\$_____) (the "Bond Sum"). The Constructor and Surety hereby bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein.

1. If the Oblige shall accept the bid of the Constructor, the Constructor shall enter into an Agreement with the Oblige in accordance with the terms of such Bid.
2. Constructor shall procure such bond or bonds as are specified in the Contract Documents for the faithful performance of the Work and for the prompt payment of labor and materials furnished in the performance of the Work.
3. If the Constructor fails to enter such Agreement and give such bonds, the Constructor shall pay to the Oblige the difference between the amount of Constructor's bid and the amount of such agreement the Oblige in good faith executes with another Party to perform the Work covered by Constructor's Bid, not to exceed the Bond Sum stated above.
4. If the Constructor shall fulfill its obligation under Articles 1 through 3, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

This Bond is entered into as of _____ (date)

SURETY: _____ (seal)

BY:

Print Name: _____

Print Title: _____ (Attach Power of Attorney)

Witness:

(Additional signatures, if any, appear on attached page)

Constructor: _____ (seal)

BY:

Print Name: _____

Print Title: _____

Witness:

(Additional signatures, if any, appear on attached page)

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.

ConsensusDOCS 262 • BID BOND Copyright © 2007, Revised 2009 and 2011, ConsensusDOCS LLC, AN INDIVIDUAL PURCHASE OF THIS DOCUMENT PERMITS THE USER TO PRINT ONE CONTRACT FOR ONE PROJECT ONLY, YOU MAY ONLY MAKE COPIES OF A COMPLETED DOCUMENT FOR DISTRIBUTION TO PARTIES IN DIRECT CONNECTION WITH THE SPECIFIC CONSTRUCTION PROJECT, ANY OTHER USES, INCLUDING COPYING THE DOCUMENT, ARE STRICTLY PROHIBITED.

SECTION 00 5200

AGREEMENT FORM

PART 1 - GENERAL

1.01 AGREEMENT FORM

- A. The Form of Agreement to be used on this project is a modified ConsensusDocs 802. A sample is attached following this page.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

ConsensusDocs 802

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND TRADE CONTRACTOR

(Where the Construction Manager Is the Owner's Agent)



TABLE OF ARTICLES

1. AGREEMENT
2. GENERAL PROVISIONS
3. TRADE CONTRACTOR'S OBLIGATIONS
4. OWNER'S RESPONSIBILITIES
5. SUBCONTRACTS
6. TRADE CONTRACT TIME
7. TRADE CONTRACT PRICE
8. CHANGES
9. PAYMENT
10. INDEMNITY, INSURANCE, WAIVERS AND BONDS
11. SUSPENSION, NOTICE TO CURE AND TERMINATION OF AGREEMENT
12. DISPUTE MITIGATION AND RESOLUTION
13. MISCELLANEOUS PROVISIONS
14. TRADE CONTRACT DOCUMENTS

This Agreement has important legal and insurance consequences. Consultations with an attorney and with insurance and surety consultants are encouraged with respect to its completion or modification. Notes indicate where information is to be inserted to complete this Agreement.

ARTICLE 1 AGREEMENT

This Trade Contractor Agreement is made effective as of the XX day of Month, Year , by and between the

OWNER

State of Iowa - DAS, Department of Administrative Services ("DAS"). DAS's principal office is located: 109 SE 13th Street, Des Moines, IA 50319-0120.

and the

TRADE CONTRACTOR

Contractor Name

Address

City, State, Zip

for work in connection with the following

PROJECT

XXXX.XX - Project Name

The CONSTRUCTION MANAGER is

Construction Manager Name

Address

City, State, Zip

The DESIGN PROFESSIONAL for the Project is

Designer Name

Address

City, State, Zip

Notice to the Parties shall be given at the above addresses.

ARTICLE 2 GENERAL PROVISIONS

2.1 RELATIONSHIP OF PARTIES The Owner and the Trade Contractor agree to proceed with this Agreement on the basis of mutual trust, good faith and fair dealing and shall cooperate with each other and with the Construction Manager and Design Professional in furthering the Owner's interests. The Trade Contractor shall use its diligent efforts to perform the work in an expeditious manner consistent with the Trade Contract Documents. The Owner and the Trade Contractor will endeavor to promote harmony and cooperation among all Project participants.

2.1.1 The Owner and the Trade Contractor shall perform their obligations with integrity, ensuring at a minimum that

2.1.1.1 conflicts of interest shall be avoided or disclosed promptly to the other Party; and

2.1.1.2 the Trade Contractor and the Owner warrant that they have not and shall not pay nor receive any contingent fees or gratuities to or from the other Party, including its agents, officers and employees, Subcontractors or others for whom they may be liable, to secure preferential

treatment.

2.2 PROJECT ORGANIZATION This Agreement is for the performance of work described herein in connection with the construction of the Project. The Owner also may enter into separate agreements with other trade contractors for other portions of the Project. The Owner has entered or will enter into a Construction Management Agreement with the Construction Manager, and a design agreement with the Design Professional.

2.3 INDEPENDENT CONTRACTOR The Trade Contractor represents that it is an independent contractor and that its performance of the Trade Contract Work it shall act as an independent contractor. Neither Trade Contractor nor any of its agents or employees shall act on behalf of the Owner except as provided in this Agreement or unless authorized in writing by the Owner.

2.4 CONSTRUCTION MANAGER IS OWNER'S AGENT The Construction Manager will represent the Owner as its agent in the administration and management of this Agreement. Any instructions, reviews, approvals, orders or directions given to the Trade Contractor by the Construction Manager will be given on behalf of and as agent for the Owner. The Trade Contractor shall be obligated to respond or perform as if the same were given directly by the Owner. The Trade Contractor shall communicate and provide all requests and concerns regarding the Trade Contract Work to the Construction Manager. The Trade Contractor shall provide copies to the Construction Manager of all notices to the Owner required by and regarding this Agreement.

2.5 CONSTRUCTION MANAGER NOT IN PRIVITY WITH TRADE CONTRACTOR This Agreement shall not give the Trade Contractor any claim or right of action against the Construction Manager. The Trade Contractor and its subcontractors shall not be beneficiaries of any obligations of the Construction Manager. This Agreement shall not create a contractual relationship between any parties except the Owner and the Trade Contractor.

2.5A NO THIRD-PARTY BENEFICIARY There are no third-party beneficiaries of this Agreement.

2.6 DESIGN PROFESSIONAL The Owner, through its Design Professional, shall provide all architectural and engineering design services necessary for the completion of the Work, except the following:

No exceptions

The Trade Contractor shall not be required to provide professional services which constitute the practice of architecture or engineering except as otherwise provided in section 3.15.

2.6.1 The Owner shall obtain from the Design Professional either a license for Trade Contractor and Subcontractors to use the design documents prepared by the Design Professional or ownership of the copyrights for such design documents, and shall defend, indemnify and hold harmless the Trade Contractor against any suits or claims of infringement of any copyrights or licenses arising out of the use of the design documents. To the extent portions of this paragraph are in conflict with SF 396 (codified at Iowa Code Section 537A.5) said portions are void and unenforceable.

2.7 EXTENT OF AGREEMENT This Agreement is solely for the benefit of the Parties, represents the entire integrated agreement between the Parties, and supersedes all prior negotiations, representations and agreements, either written or oral. This Agreement and each and every provision is for the exclusive benefit of the Owner and the Trade Contractor and not for the benefit of any third party except to the extent expressly provided in this Agreement. In the event of conflict between this Agreement and any of the Exhibits or any other documents incorporated into this Agreement, the terms and provisions of this Agreement shall control.

2.8 DEFINITIONS

2.8.1 Agreement means this ConsensusDocs 802 Standard Form of Agreement Between Owner and Trade Contractor (Where the Construction Manager is the Owner's Agent), as modified by the Parties, and Exhibits and Attachments made part of this Agreement upon its execution.

2.8.2 Design Professional means the Architect, Design Professional or Engineer identified in ARTICLE 1 and its consultants, retained by Owner to perform design services for the Project, and licensed in the State in which the Project is located. The use of the term Design Professional in this Agreement is for convenience and is not intended to imply or infer that the individual or entity named in ARTICLE 1 will provide design professional services in a discipline in which it is not licensed.

2.8.3 Construction Manager means the Construction Manager identified in ARTICLE 1 and its authorized representative.

2.8.4 The Construction Schedule is the document initially prepared by and updated by the Construction Manager and approved by the Owner that indicates proposed activity sequences, durations, or milestone dates for such activities as receipt and approval of pertinent information, issuance of the Construction Documents, the preparation and processing of shop drawings and samples, delivery of materials or equipment requiring long-lead-time procurement, Owner's occupancy requirements and estimated dates of Substantial Completion and Final Completion of the Project.

2.8.5 The term Day shall mean calendar day unless otherwise specifically defined.

2.8.6 Final Completion occurs on the date when the Trade Contractor's obligations under this Agreement are complete and accepted by the Owner and final payment becomes due and payable, as established in ARTICLE 6. This date shall be confirmed by a Certificate of Final Completion signed by the Owner and the Trade Contractor.

2.8.7 A Hazardous Material is any substance or material identified now or in the future as toxic or hazardous under any federal, state or local law or regulation, or any other substance or material which may be considered hazardous or otherwise subject to statutory or regulatory requirements governing handling, disposal or clean-up.

2.8.8 A Material Supplier is a person or entity retained by the Trade Contractor to provide material or equipment for the Trade Contract Work. This definition is not intended to, and shall not be interpreted to, expand or modify the definition(s) of materials or material suppliers contained in Iowa Code Chapter 573.

2.8.9 Others means other contractors, material suppliers, and persons at the Worksite who are not employed by the Trade Contractor or Subcontractors.

2.8.10 The term Overhead shall mean a) payroll costs and other compensation of Trade Contractor employees in the Trade Contractor's principal and branch offices; b) general and administrative expenses of the Trade Contractor's principal and branch offices including deductibles paid on any insurance policy and c) the Trade Contractor's capital expenses, including interest on capital used for the Work.

2.8.11 Owner is the person or entity identified in ARTICLE 1 as Owner, and includes the Owner's representative.

2.8.12 The Project, as identified in ARTICLE 1, is the building, facility or other improvements for which the Trade Contractor is to perform the Trade Contract Work.

2.8.13 A Subcontractor is a person or entity retained by the Trade Contractor as an independent contractor to provide the labor, materials, equipment or services necessary to complete a specific



portion of the Work. This definition is not intended to, and shall not be interpreted to, expand or modify the definition(s) of materials or material suppliers contained in Iowa Code Chapter 573.

2.8.14 Per Iowa Code Section 26.13, "substantially completed" means the first date on which any of the following occurs: (1) Completion of the Project (or Trade Contract Work, in the case of the multiple Trade Contractors) or when the Project (or Trade Contract Work in the case of multiple Trade Contractors) has been substantially completed in general accordance with the terms and provisions of the contract. (2) The work on the Project (or Trade Contract Work in the case of multiple Trade Contractors) or on the designated portion is substantially completed in general accordance with the terms of the contract so that the State of Iowa can occupy or utilize the Project or designated portion of the Project for its intended purpose. (3) The Project (or Trade Contract Work in the case of multiple Trade Contractors) is certified as having been substantially completed by either of the following: (a) the architect or engineer authorized to make such certification (which is defined in this Agreement as the Design Professional). (b) The authorized contract representative (which is defined in this Agreement as the Owner's Representative). (4) The State of Iowa is occupying or utilizing the Project (or Trade Contract Work in the case of multiple Trade Contractors) for its intended purpose. This subparagraph shall not apply to highway, bridge, or culvert projects.

2.8.15 Terrorism means a violent act, or an act that is dangerous to human life, property or infrastructure, that is committed by an individual or individuals and that appears to be part of an effort to coerce a civilian population or to influence the policy or affect the conduct of any government by coercion. Terrorism includes, but is not limited to, any act certified by the United States government as an act of terrorism pursuant to the Terrorism Risk Insurance Act, as amended.

2.8.16 A Trade Contract Change Order is a written order signed by the Owner and the Trade Contractor after execution of this Agreement, indicating changes in the scope of the Trade Contract Work, the Trade Contract Price or Trade Contract Time, including substitutions proposed by the Trade Contractor and accepted by the Owner. Trade Contract Change Orders shall be executed using the ConsensusDOCS 813 Trade Contract Change Order (CM as Owner's Agent) form document with exhibits attached as necessary.

2.8.17 The Trade Contract Documents consist of this Agreement (as modified), the drawings, specifications, addenda issued prior to execution of this Agreement, approved submittals, information furnished by the Owner under subsection 4.1.3, the bid documents, other documents listed in this Agreement and any modifications issued after execution.

2.8.18 The Trade Contract Price is the amount indicated in section 7.1 of this Agreement.

2.8.19 The Trade Contract Time is the period between the Date of Commencement and Final Completion.

2.8.20 Trade Contract Work means the construction and services provided by the Trade Contractor.

2.8.20.1 Changed Work means work that is different from the original scope of Trade Contract Work; or work that changes the Trade Contract Price or Trade Contract Time.

2.8.20.2 Defective Work is any portion of the Trade Contract Work that is not in conformance with the Trade Contract Documents.

2.8.21 The Trade Contractor is the person or entity identified in ARTICLE 1 and includes the Trade Contractor's Representative.

2.8.22 The term Work means the construction and services necessary or incidental to fulfill the Trade

Contractors' obligations for the Project. The Work may refer to the whole Project or only a part of the Project.

2.8.23 Worksite means the geographical area at the location of the Project as identified in ARTICLE 1 where the Trade Contract Work is to be performed.

ARTICLE 3 TRADE CONTRACTOR'S OBLIGATIONS

3.1 GENERAL RESPONSIBILITIES

3.1.1 RESPONSIBILITIES The Trade Contractor shall provide all of the labor, materials, equipment and services necessary to complete the Trade Contract Work, all of which shall be provided in full accord with or as reasonably inferable from the Trade Contract Documents as being necessary to produce the indicated results.

3.1.2 The Trade Contractor shall be responsible for the supervision and coordination of the Trade Contract Work, including the construction means, methods, techniques, sequences and procedures utilized, unless the Trade Contract Documents give other specific instructions. In such case, the Trade Contractor shall not be liable to the Owner for damages resulting from compliance with such instructions unless the Trade Contractor recognized and failed to timely report to the Owner any error, inconsistency, omission or unsafe practice that it discovered in the specified construction means, methods, techniques, safety, sequences or procedures.

3.1.3 The Trade Contractor shall perform Trade Contract Work only within locations allowed by the Trade Contract Documents, applicable permits and applicable local law.

3.2 COOPERATION WITH WORK OF OWNER AND OTHERS

3.2.1 The Owner may perform work at the Worksite directly or by Others. Any agreements with Others to perform construction or operations related to the Project shall include provisions pertaining to insurance, indemnification, waiver of subrogation, coordination, interference, clean up and safety which are substantively the same as the corresponding provisions of this Agreement.

3.2.2 In the event that the Owner elects to perform work at the Worksite directly or by Others, the Trade Contractor and the Owner shall, with the assistance of the Construction Manager, coordinate the activities of all forces at the Worksite and agree upon fair and reasonable schedules and operational procedures for Worksite activities. The Owner shall require each separate contractor to cooperate with the Trade Contractor and assist with the coordination of activities and the review of construction schedules and operations. The Trade Contract Price and Trade Contract Time shall be equitably adjusted, as mutually agreed by the Parties, for subsequent changes made necessary by the coordination of construction activities, and the Trade Contractor's construction schedule and the Construction Schedule shall be revised accordingly. The Trade Contractor, Owner and Others shall adhere to the revised Construction Schedule until it may subsequently be revised.

3.2.3 With regard to the work of the Owner and Others, the Trade Contractor shall (a) proceed with the Trade Contract Work in a manner which does not hinder, delay or interfere with the work of the Owner or Others or cause the work of the Owner or Others to become defective, (b) afford the Owner or Others reasonable access for introduction and storage of their materials and equipment and performance of their activities, and (c) coordinate the Trade Contractor's construction and operations with theirs as required by this section.

3.2.4 Before proceeding with any portion of the Trade Contract Work affected by the construction or operations of the Owner or Others, the Trade Contractor shall give the Owner and Construction

Manager prompt written notification of any defects the Trade Contractor discovers in their work which will prevent the proper execution of the Trade Contract Work. The Trade Contractor's obligations in this section do not create a responsibility for the work of the Owner or Others, but are for the purpose of facilitating the Trade Contract Work. If the Trade Contractor does not notify the Owner and Construction Manager of patent defects interfering with the performance of the Trade Contract Work, the Trade Contractor acknowledges that the work of the Owner or Others is not defective and is acceptable for the proper execution of the Trade Contract Work. Following receipt of written notice from the Trade Contractor of defects, the Owner, through the Construction Manager, shall promptly inform the Trade Contractor what action, if any, the Trade Contractor shall take with regard to the defects.

3.3 RESPONSIBILITY FOR PERFORMANCE

3.3.1 In order to facilitate its responsibilities for completion of the Work in accordance with and as reasonably inferable from the Trade Contract Documents, prior to commencing the Work the Trade Contractor shall examine and compare the drawings and specifications with information furnished by the Owner pursuant to subsection 4.1.3, relevant field measurements made by the Trade Contractor and any visible conditions at the Worksite affecting the Trade Contract Work.

3.3.2 If in the course of the performance of the obligations in subsection 3.3.1 the Trade Contractor discovers any errors, omissions or inconsistencies in the Contract Documents, the Trade Contractor shall promptly report them to the Owner and Construction Manager. It is recognized, however, that the Trade Contractor is not acting in the capacity of a licensed design professional, and that the Trade Contractor's examination is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions or inconsistencies or to ascertain compliance with applicable laws, building codes or regulations. Following receipt of written notice from the Trade Contractor of defects, the Owner shall promptly inform the Trade Contractor what action, if any, the Trade Contractor shall take with regard to the defects.

3.3.3 The Trade Contractor shall have no liability for errors, omissions or inconsistencies discovered under subsections 3.3.1 and 3.3.2 unless the Trade Contractor fails to report a recognized problem to the Owner and Construction Manager.

3.3.4 The Trade Contractor may be entitled to additional costs or time if there are changes in the scope of the Trade Contract Work that increase the cost of the Work or increase the number of days required to perform the Work, respectively, because of clarifications or instructions arising out of the Trade Contractor's reports described in the three preceding Subsections.

3.4 CONSTRUCTION PERSONNEL AND SUPERVISION

3.4.1 The Trade Contractor shall provide competent supervision for the performance of the Trade Contract Work. Before commencing the Trade Contract Work, Trade Contractor shall notify Owner and Construction Manager in writing of the name and qualifications of its proposed superintendent(s) and project manager so Owner and Construction Manager may review the individual's qualifications. If, for reasonable cause, the Owner or Construction Manager refuses to approve the individual, or withdraws its approval after once giving it, Trade Contractor shall name a different superintendent or project manager for Owner's and Construction Manager's review. Any disapproved superintendent shall not perform in that capacity thereafter at the Worksite.

3.4.2 The Trade Contractor shall be responsible to the Owner for acts or omissions of parties or entities performing portions of the Trade Contract Work for or on behalf of the Trade Contractor or any of its Subcontractors.

3.4.3 The Trade Contractor shall permit only qualified persons to perform the Trade Contract Work. The



Trade Contractor shall enforce safety procedures, strict discipline and good order among persons performing the Trade Contract Work. If the Owner or Construction Manager determines that a particular person does not follow safety procedures, or is unfit or unskilled for the assigned work, the Trade Contractor shall immediately reassign the person on receipt of the Owner's or Construction Manager's written notice to do so.

3.4.4 TRADE CONTRACTOR'S REPRESENTATIVE The Trade Contractor's authorized representative is . The Trade Contractor's representative shall possess full authority to receive instructions from the Owner and to act on those instructions. The Trade Contractor shall notify the Owner and the Construction Manager in writing of a change in the designation of the Trade Contractor's representative. The Trade Contractor's representative is also authorized to bind the Trade Contractor in all matters relating to this Agreement including, without limitation, all matters requiring the Trade Contractor's approval, authorization, or written notice. The Trade Contractor's representative is also authorized to resolve disputes in accordance with Section 12.2 of this Agreement.

3.5 MATERIALS FURNISHED BY THE OWNER OR OTHERS

3.5.1 In the event the Trade Contract Work includes installation of materials or equipment furnished by the Owner or Others, it shall be the responsibility of the Trade Contractor to examine the items so provided and thereupon handle, store and install the items, unless otherwise provided in the Trade Contract Documents, with such skill and care as to provide a satisfactory and proper installation. Loss or damage due to acts or omissions of the Trade Contractor shall be the responsibility of the Trade Contractor and may be deducted from any amounts due or to become due the Trade Contractor. Any defects discovered in such materials or equipment shall be reported at once to the Owner and Construction Manager. Following receipt of written notice from the Trade Contractor of defects, the Owner shall promptly inform the Trade Contractor what action, if any, the Trade Contractor shall take with regard to the defects.

3.6 TESTS AND INSPECTIONS

3.6.1 The Trade Contractor shall schedule all required tests, approvals and inspections of the Trade Contract Work or portions thereof at appropriate times so as not to delay the progress of the Trade Contract Work or other work related to the Project. The Trade Contractor shall give proper notice to the Construction Manager and to all required parties of such tests, approvals and inspections. If feasible, the Owner and Others may timely observe the tests at the normal place of testing. Except as provided in subsection 3.6.3, the Owner shall bear all expenses associated with tests, inspections and approvals required by the Trade Contract Documents, which, unless otherwise agreed to, shall be conducted by an independent testing laboratory or entity retained by the Owner. Unless otherwise required by the Trade Contract Documents, required certificates of testing, approval or inspection shall be secured by the Trade Contractor and promptly delivered to the Owner and Construction Manager.

3.6.2 If the Owner, Construction Manager or appropriate authorities determine that tests, inspections or approvals in addition to those required by the Trade Contract Documents will be necessary, the Trade Contractor shall arrange for the procedures and give timely notice to the Owner, Construction Manager and Others who may observe the procedures. Costs of the additional tests, inspections or approvals are at the Owner's expense except as provided in subsection 3.6.3.

3.6.3 If the procedures described in subsections 3.6.1 and 3.6.2 indicate that portions of the Trade Contract Work fail to comply with the Trade Contract Documents, the Trade Contractor shall be responsible for costs of correction and retesting.

3.7 WARRANTY

3.7.1 The Trade Contract Work shall be executed in accordance with the Trade Contract Documents in a workmanlike manner. The Trade Contractor warrants that all materials and equipment shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the Trade Contract Work and shall be new unless otherwise specified, of good quality, in conformance with the Trade Contract Documents, and free from defective workmanship and materials. At the Owner's or Construction Manager's request, the Trade Contractor shall furnish satisfactory evidence of the quality and type of materials and equipment furnished. The Trade Contractor further warrants that the Trade Contract Work shall be free from material defects not intrinsic in the design or materials required in the Trade Contract Documents. The Trade Contractor's warranty does not include remedies for defects or damages caused by normal wear and tear during normal usage, use for a purpose for which the Project was not intended, improper or insufficient maintenance, modifications performed by the Owner or Others, or abuse. The Trade Contractor's warranty pursuant to this section shall commence on the Date of Substantial Completion.

3.7.2 The Trade Contractor shall obtain from its Subcontractors and material suppliers any special or extended warranties required by the Trade Contract Documents. All such warranties shall be listed in an attached Exhibit to this Agreement.

3.8 CORRECTION OF TRADE CONTRACT WORK WITHIN ONE YEAR

3.8.1 If, prior to Substantial Completion and within one year after the date of Substantial Completion of the Trade Contract Work, any Defective Work is found, the Owner shall promptly notify the Trade Contractor in writing. Unless the Owner provides written acceptance of the condition, the Trade Contractor shall promptly correct the Defective Work at its own cost and time and bear the expense of additional services required for correction of any Defective Work for which it is responsible. If within the one-year correction period the Owner discovers and does not promptly notify the Trade Contractor or give the Trade Contractor an opportunity to test or correct Defective Work as reasonably requested by the Trade Contractor, the Owner waives the Trade Contractor's obligation to correct that Defective Work as well as the Owner's right to claim a breach of the warranty with respect to that Defective Work.

3.8.2 With respect to any portion of Trade Contract Work first performed after Substantial Completion, the one-year correction period shall be extended by the period of time between Substantial Completion and the actual performance of the later Trade Contract Work. Correction periods shall not be extended by corrective work performed by the Trade Contractor.

3.8.3 If the Trade Contractor fails to correct Defective Work within a reasonable time after receipt of written notice from the Owner prior to final payment, the Owner may correct it in accordance with the Owner's right to carry out the Trade Contract Work in section 11.2. In such case, an appropriate Trade Contract Change Order shall be issued deducting the cost of correcting such deficiencies from payments then or thereafter due the Trade Contractor. If payments then or thereafter due Trade Contractor are not sufficient to cover such amounts, the Trade Contractor shall pay the difference to the Owner.

3.8.4 If after the one-year correction period but before the applicable limitation period the Owner discovers any Defective Work, the Owner shall, unless the Defective Work requires emergency correction, promptly notify the Trade Contractor. If the Trade Contractor elects to correct the Defective Work, it shall provide written notice of such intent within fourteen (14) Days of its receipt of notice from the Owner. The Trade Contractor shall complete the correction of Defective Work within a time frame mutually agreed upon by the Trade Contractor and the Owner. If the Trade Contractor does not elect to correct the Defective Work, the Owner may have the Defective Work corrected by itself or Others and charge the Trade Contractor for the reasonable cost of the correction and other directly related

expenses. Owner shall provide Trade Contractor with an accounting of correction costs it incurs.

3.8.5 If the Trade Contractor's correction or removal of Defective Work causes damage to or destroys other completed or partially completed Work or existing buildings, the Trade Contractor shall be responsible for the cost of correcting the destroyed or damaged property.

3.8.6 The one-year period for correction of Defective Work does not constitute a limitation period with respect to the enforcement of the Trade Contractor's other obligations under the Trade Contract Documents.

3.8.7 Prior to final payment, at the Owner's option and with the Trade Contractor's agreement, the Owner may elect to accept Defective Work rather than require its removal and correction. In such case the Contract Price shall be equitably adjusted for any diminution in the value of the Project caused by such Defective Work. Before the Owner accepts any such change it must be documented in writing with a Change Order signed by both the Trade Contractor and Owner.

3.9 CORRECTION OF COVERED TRADE CONTRACT WORK

3.9.1 On request of the Owner or Construction Manager, Trade Contract Work that has been covered without a requirement that it be inspected prior to being covered may be uncovered for the Owner's or Construction Manager's inspection. The Owner shall pay for the costs of uncovering and replacement if the Work proves to be in conformance with the Trade Contract Documents, or if the defective condition was caused by the Owner or Others. If the uncovered Trade Contract Work proves to be defective, the Trade Contractor shall pay the costs of uncovering and replacement.

3.9.2 If contrary to specific requirements in the Trade Contract Documents or contrary to a specific request from the Owner or Construction Manager, a portion of the Trade Contract Work is covered, the Owner or Construction Manager, by written request, may require the Trade Contractor to uncover the Trade Contract Work for the Owner's or Construction Manager's observation. In this circumstance the Trade Contract Work shall be uncovered and recovered at the Trade Contractor's expense and with no adjustment to the Trade Contract Time. Costs incurred by the Owner as a direct result of the above shall be deducted from the Trade Contract Price.

3.10 SAFETY OF PERSONS AND PROPERTY

3.10.1 SAFETY PRECAUTIONS AND PROGRAMS The Trade Contractor shall have overall responsibility for safety precautions and programs in the performance of the Trade Contract Work. While this section establishes the responsibility for safety between the Owner and Trade Contractor, it does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with the provisions of applicable laws and regulations.

3.10.2 The Trade Contractor shall seek to avoid injury, loss or damage to persons or property by taking reasonable steps to protect:

3.10.2.1 its employees and other persons at the Worksite;

3.10.2.2 materials and equipment stored at on-site or off-site locations for use in the Trade Contract Work; and

3.10.2.3 property located at the site and adjacent to Trade Contract Work areas, whether or not the property is part of the Trade Contract Work.

3.10.3 TRADE CONTRACTOR'S SAFETY REPRESENTATIVE The Trade Contractor's Worksite Safety Representative is who shall act as the Trade Contractor's authorized safety representative with a duty

to prevent accidents in accordance with subsection 3.10.2 If no individual is identified in this section, the authorized safety representative shall be the Trade Contractor's Representative. The Trade Contractor shall report immediately in writing to the Owner and Construction Manager all recordable accidents and injuries occurring at the Worksite. When the Trade Contractor is required to file an accident report with a public authority, the Trade Contractor shall furnish a copy of the report to the Owner and Construction Manager.

3.10.4 The Trade Contractor shall provide the Owner and Construction Manager with copies of all notices required of the Trade Contractor by law or regulation. The Trade Contractor's safety program shall comply with the requirements of governmental and quasi-governmental authorities having jurisdiction.

3.10.5 Damage or loss not insured under property insurance which may arise from the Trade Contract Work, to the extent caused by the negligent acts or omissions of the Trade Contractor, or anyone for whose acts the Trade Contractor may be liable, shall be promptly remedied by the Trade Contractor.

3.10.6 If the Owner or Construction Manager deems any part of the Trade Contract Work or Worksite unsafe, the Owner or Construction Manager, without assuming responsibility for the Trade Contractor's safety program, may require the Trade Contractor to stop performance of the Trade Contract Work or take corrective measures satisfactory to the Owner, or both. If the Trade Contractor does not adopt corrective measures, the Owner may perform them and deduct their cost from the Trade Contract Price. The Trade Contractor agrees to make no claim for damages, for an increase in the Trade Contract Price or for a change in the Trade Contract Time based on the Trade Contractor's compliance with the Owner's or Construction Manager's reasonable request.

3.11 EMERGENCIES

3.11.1 In an emergency, the Trade Contractor shall act in a reasonable manner to prevent personal injury or property damage. Any change in the Trade Contract Price or Trade Contract Time resulting from the actions of the Trade Contractor in an emergency situation shall be determined as provided in ARTICLE 8.

3.12 HAZARDOUS MATERIALS

3.12.1 The Trade Contractor shall not be obligated to commence or continue Trade Contract Work until any Hazardous Material discovered at the Worksite has been removed, rendered or determined to be harmless by the Owner as certified by an independent testing laboratory and approved by the appropriate government agency.

3.12.2 If after the commencement of the Trade Contract Work a Hazardous Material is discovered at the Worksite, the Trade Contractor shall be entitled to immediately stop Trade Contract Work in the affected area. The Trade Contractor shall report the condition to the Owner, the Construction Manager, and, if required, the government agency with jurisdiction.

3.12.3 The Trade Contractor shall not be required to perform any Trade Contract Work relating to or in the area of Hazardous Material without written mutual agreement.

3.12.4 The Owner shall be responsible for retaining an independent testing laboratory to determine the nature of the Hazardous Material encountered and whether the material requires corrective measures or remedial action. Such measures shall be the sole responsibility of the Owner, and shall be performed in a manner minimizing any adverse effects upon the Trade Contract Work. The Trade Contractor shall resume Trade Contract Work in the area affected by any Hazardous Material only upon written agreement between the Parties after the Hazardous Material has been removed or rendered harmless.

and only after approval, if necessary, of the governmental agency with jurisdiction.

3.12.5 If the Trade Contractor incurs additional costs or is delayed due to the presence or remediation of Hazardous Material, the Trade Contractor shall be entitled to an equitable adjustment in the Trade Contract Price or the Trade Contract Time.

3.12.6 To the extent not caused by the negligent acts or omissions of the Trade Contractor, its Subcontractors and Sub-subcontractors, and the agents, officers, directors and employees of each of them, the Owner shall defend, indemnify and hold harmless the Trade Contractor, its Subcontractors and Sub-subcontractors, and the agents, officers, directors and employees of each of them, from and against any and all direct claims, damages, losses, costs and expenses, including but not limited to attorney's fees, costs and expenses incurred in connection with any dispute resolution process, to the extent permitted pursuant to section 6.6, arising out of or relating to the performance of the Trade Contract Work in any area affected by Hazardous Material. To the extent portions of this paragraph are in conflict with SF 396 (codified at Iowa Code Section 537A.5) said portions are void and unenforceable.

3.12.7 MATERIALS BROUGHT TO THE WORKSITE

3.12.7.1 Material Safety Data (MSD) sheets as required by law and pertaining to materials or substances used or consumed in the performance of the Trade Contract Work, whether obtained by the Trade Contractor, Subcontractors, the Owner or Others, shall be maintained at the Worksite by the Trade Contractor and made available to the Owner, Construction Manager, Subcontractors and Others.

3.12.7.2 The Trade Contractor shall be responsible for the proper delivery, handling, application, storage, removal and disposal of all materials and substances brought to the Worksite by the Trade Contractor in accordance with the Trade Contract Documents and used or consumed in the performance of the Trade Contract Work.

3.12.7.3 The Trade Contractor shall indemnify and hold harmless the Owner, Construction Manager, their agents, officers, directors and employees, from and against any and all claims, damages, losses, costs and expenses, including but not limited to attorney's fees, costs and expenses incurred in connection with any dispute resolution procedure, arising out of or relating to the delivery, handling, application, storage, removal and disposal of all materials and substances brought to the Worksite by the Trade Contractor in accordance or not in accordance with the Trade Contract Documents. To the extent portions of this paragraph are in conflict with SF 396 (codified at Iowa Code Section 537A.5) said portions are void and unenforceable.

3.12.8 The terms of this section shall survive the completion of the Trade Work or any termination of this Agreement.

3.13 SUBMITTALS

3.13.1 The Trade Contractor shall submit to the Construction Manager, and the Design Professional, for review and approval all shop drawings, samples, product data and similar submittals required by the Trade Contract Documents. Submittals may be submitted in electronic form if required in accordance with ConsensusDocs 200.2 and subsection 4.4.1. The Trade Contractor shall be responsible to the Owner for the accuracy and conformity of its submittals to the Trade Contract Documents. The Trade Contractor shall prepare and deliver its submittals in a manner consistent with the Construction Schedule and in such time and sequence so as not to delay the performance of the Trade Contract Work or the work of the Owner and Others. When the Trade Contractor delivers its submittals the Trade Contractor shall identify in writing for each submittal all changes, deviations or substitutions from the requirements of the Trade Contract Documents. The review and approval of any Trade Contractor

submittal shall not be deemed to authorize changes, deviations or substitutions from the requirements of the Trade Contract Documents unless express written approval is obtained from the Owner specifically authorizing such deviation, substitution or change. To the extent a change, deviation or substitution causes an impact to the Contract Price or Contract Time, such approval shall be promptly memorialized in a Change Order. Further, the Construction Manager and Design Professional shall not make any change, deviation or substitution through the submittal process without specifically identifying and authorizing such deviation to the Trade Contractor. In the event that the Trade Contract Documents do not contain submittal requirements pertaining to the Trade Contract Work, the Trade Contractor agrees upon request to submit in a timely fashion to the Construction Manager and the Design Professional for review and approval any shop drawings, samples, product data, manufacturers' literature or similar submittals as may reasonably be required by the Owner, Construction Manager, or Design Professional.

3.13.2 The Owner shall be responsible for review and approval of submittals with reasonable promptness to avoid causing delay.

3.13.3 The Trade Contractor shall perform all Trade Contract Work strictly in accordance with approved submittals. Approval of shop drawings is not authorization to Trade Contractor to perform Changed Work, unless the procedures of ARTICLE 8 are followed. Approval does not relieve the Trade Contractor from responsibility for Defective Work resulting from errors or omissions of any kind on the approved Shop Drawings.

3.13.4 Record copies of the following, incorporating field changes and selections made during construction, shall be maintained by the Trade Contractor at the Project site and available to the Owner upon request: drawings, specifications, addenda, Trade Contract Change Order and other modifications, and required submittals including product data, samples and shop drawings.

3.13.5 No substitutions shall be made in the Trade Contract Work unless permitted in the Trade Contract Documents and then only after the Trade Contractor obtains approvals required under the Trade Contract Documents for substitutions. All such substitutions shall be promptly memorialized in a Change Order no later than seven (7) Days following approval by the Owner and, if applicable, provide for an adjustment in the Contract Price or Contract Time.

3.13.6 The Trade Contractor shall prepare and submit to the Construction Manager for submission to the Owner

(Check one only)

- final marked up as-built drawings
- updated electronic data, in accordance with ConsensusDocs 200.2 and section 4.4.1
- such documentation as defined by the Parties by attachment to this Agreement,

in general documenting how the various elements of the Trade Contract Work were actually constructed or installed.

3.14 PROFESSIONAL SERVICES

3.14.1 The Trade Contractor may be required to procure professional services in order to carry out its responsibilities for construction means, methods, techniques, sequences and procedures for such services specifically called for by the Contract Documents. The Trade Contractor shall obtain these professional services and any design certifications required from State of Iowa licensed design professionals. All drawings, specifications, calculations, certifications and submittals prepared by such

design professionals shall bear the signature and seal of such design professionals and the Owner and the Design Professional shall be entitled to rely upon the adequacy, accuracy and completeness of such design services. If professional services are specifically required by the Contract Documents, the Owner shall indicate all required performance and design criteria. The Trade Contractor shall not be responsible for the adequacy of such performance and design criteria. The Trade Contractor shall not be required to provide such services in violation of existing laws, rules and regulations in the jurisdiction where the Project is located.

3.15 WORKSITE CONDITIONS

3.15.1 WORKSITE VISIT The Trade Contractor acknowledges that it has visited, or has had the opportunity to visit, the Worksite to visually inspect the general and local conditions which could affect the Trade Contract Work.

3.15.2 CONCEALED OR UNKNOWN SITE CONDITIONS If the conditions at the Worksite are (a) subsurface or other concealed physical conditions which are materially different from those indicated in the Trade Contract Documents, or (b) unusual and unknown physical conditions which are materially different from conditions ordinarily encountered and generally recognized as inherent in Trade Contract Work provided for in the Trade Contract Documents, the Trade Contractor shall stop Trade Contract Work and give immediate written notice of the condition to the Owner, Construction Manager and the Design Professional. The Trade Contractor shall not be required to perform any work relating to the unknown condition without the written mutual agreement of the Parties. Any change in the Contract Price or the Contract Time as a result of the unknown condition shall be determined as provided in this article. The Trade Contractor shall provide the Owner and the Construction Manager with written notice of any claim as a result of unknown conditions within the time period set forth in section 8.4.

3.16 PERMITS AND TAXES

3.16.1 Trade Contractor shall give public authorities all notices required by law and, except for permits and fees which are the responsibility of the Owner pursuant to section 4.2, shall obtain and pay for all necessary permits, licenses and renewals pertaining to the Trade Contract Work. Trade Contractor shall provide to Owner copies of all notices, permits, licenses and renewals required under this Agreement.

3.16.2 Trade Contractor shall pay all applicable taxes legally enacted when bids are received or negotiations concluded for the Trade Contract Work provided by the Trade Contractor.

3.16.3 The Contract Price or Contract Time shall be equitably adjusted by Trade Contract Change Order for additional costs resulting from any changes in laws, ordinances, rules and regulations enacted after the date of this Agreement, including increased taxes.

3.16.3 (Deleted)

3.17 CUTTING, FITTING AND PATCHING

3.17.1 The Trade Contractor shall perform cutting, fitting and patching necessary to coordinate the various parts of the Trade Contract Work and to prepare its Trade Contract Work for the work of the Owner or Others.

3.17.2 Cutting, patching or altering the work of the Owner or Others shall be done with the prior written approval of the Owner. Such approval shall not be unreasonably withheld.

3.18 CLEANING UP

3.18.1 The Trade Contractor shall regularly remove debris and waste materials at the Worksite resulting

from the Trade Contract Work. Prior to discontinuing Trade Contract Work in an area, the Trade Contractor shall clean the area and remove all rubbish and its construction equipment, tools, machinery, waste and surplus materials. The Trade Contractor shall minimize and confine dust and debris resulting from construction activities. At the completion of the Trade Contract Work, the Trade Contractor shall remove from the Worksite all construction equipment, tools, surplus materials, waste materials and debris.

3.18.2 If the Trade Contractor fails to commence compliance with cleanup duties within two (2) business Days after written notification from the Owner or the Construction Manager of noncompliance, the Owner may implement appropriate cleanup measures without further notice and the cost shall be deducted from any amounts due or to become due the Trade Contractor in the next payment period.

3.19 ACCESS TO TRADE CONTRACT WORK The Trade Contractor shall facilitate the access of the Owner, Construction Manager, Design Professional and Others to Trade Contract Work in progress.

3.20 COST MONITORING The Trade Contractor shall provide the Construction Manager with cost monitoring information appropriate for the manner of Trade Contractor's compensation, to enable the Construction Manager to develop and track construction and project budgets, including amounts for work in progress, uncompleted work and proposed changes.

3.21 ROYALTIES, PATENTS AND COPYRIGHTS The Trade Contractor shall pay all royalties and license fees which may be due on the inclusion of any patented or copyrighted materials, methods or systems selected by the Trade Contractor and incorporated in the Trade Contract Work. The Trade Contractor shall defend, indemnify and hold the Owner harmless from all suits or claims for infringement of any patent rights or copyrights arising out of such selection. The Owner agrees to indemnify and hold the Trade Contractor harmless from any suits or claims of infringement of any patent rights or copyrights arising out of any patented or copyrighted materials, methods or systems specified by the Owner, Construction Manager and Design Professional. To the extent portions of this paragraph are in conflict with SF 396 (codified at Iowa Code Section 537A.5) said portions are void and unenforceable.

3.22 CONFIDENTIALITY The Owner shall treat as confidential information all of the Trade Contractor's estimating systems and historical and parameter cost data that may be disclosed to the Owner in connection with the performance of this Agreement if they are specified and marked as confidential and shall mark them. If a document is not marked as "Confidential" it will not be treated as such. Nothing contained herein, however, shall be interpreted in a manner that modifies or is in conflict with the purpose and application of the open records laws contained in the Code of Iowa.

ARTICLE 4 OWNER'S RESPONSIBILITIES

4.1 INFORMATION SERVICES

4.1.1 FULL INFORMATION Any information or services to be provided by the Owner shall be provided in a timely manner so as not to delay the Trade Contract Work.

4.1.2 FINANCIAL INFORMATION Upon the written request of the Trade Contractor, the Owner shall provide the Trade Contractor with evidence of Project financing. If requested in writing, evidence of such financing shall be a condition precedent to the Trade Contractor's commencing or continuing the Trade Contract Work. The Trade Contractor shall be notified by the Owner prior to any material change in Project financing.

4.1.3 WORKSITE INFORMATION Except to the extent that the Trade Contractor knows of any inaccuracy, the Trade Contractor is entitled to rely on Worksite information furnished by the Owner pursuant to this subsection. To the extent the Owner has obtained, or is required elsewhere in the

Trade Contract Documents to obtain, the following Worksite information, the Owner shall provide at the Owner's expense and with reasonable promptness:

4.1.3.1 information describing the physical characteristics of the site, including surveys, site evaluations, legal descriptions, data or drawings depicting existing conditions, subsurface conditions and environmental studies, reports and investigations;

4.1.3.2 tests, inspections and other reports dealing with environmental matters, Hazardous Material and other existing conditions, including structural, mechanical and chemical tests, required by the Trade Contract Documents or by law; and

4.1.3.3 any other information or services requested in writing by the Trade Contractor which are relevant to the Trade Contractor's performance of the Trade Contract Work and under the Owner's control. The information required by subsection 4.1.3 shall be provided in reasonable detail. Legal descriptions shall include easements, title restrictions, boundaries, and zoning restrictions. Worksite descriptions shall include existing buildings and other construction and all other pertinent site conditions. Adjacent property descriptions shall include structures, streets, sidewalks, alleys, and other features relevant to the Trade Contract Work. Utility details shall include available services, lines at the Worksite and adjacent and connection points. The information shall include public and private information, subsurface information, grades, contours, and elevations, drainage data, exact locations and dimensions, and benchmarks that can be used by the Trade Contractor in laying out the Trade Contract Work. The Trade Contractor shall in writing request from the Owner any information identified in Paragraph 4.1.3 that the Trade Contractor believes the Owner has obtained but has not provided to the Trade Contractor.

4.1.3.4 OWNER'S REPRESENTATIVE The Owner's representative is test. The Owner's representative shall have authority to bind the Owner in all matters relating to this Agreement including, without limitation, all matters requiring the Owner's approval, authorization or written notice. If the Owner changes its representative as listed above, the Owner shall notify the Trade Contractor in advance in writing. The Owner's Representative is also authorized to resolve disputes in accordance with Section 12.2 of this Agreement. The Construction Manager, while unauthorized to modify the Agreement or settle a dispute without the Owner's approval, however, does have the requisite authority to act as the Owner's agent throughout the construction of the Project in accordance with the contract between the Owner and the Construction Manager (ConsensusDOCS 801 as modified by the State of Iowa).

4.2 BUILDING PERMIT, FEES AND APPROVALS Except for those permits and fees related to the Trade Contract Work which are the responsibility of the Trade Contractor pursuant to subsection 3.16.1, the Owner shall secure and pay for all other permits, approvals, easements, assessments and fees required for the development, construction, use or occupancy of permanent structures or for permanent changes in existing facilities, including the building permit.

4.3 Deleted

4.4 TRADE CONTRACT DOCUMENTS Unless otherwise specified, Owner shall provide One (1) copies of the Trade Contract Documents to the Trade Contractor without cost. Additional copies will be provided to the Trade Contractor at cost. This paragraph is not intended to be in conflict with Iowa Code Section 26.3 requirement that a sufficient number of copies of the contract documents be made available to bidders without charge (but a deposit not to exceed \$250 per set may be required). If the Trade Contractor was required to make a deposit for a set of Trade Contract Documents for purposes of bidding then the Trade Contractor may elect to have the deposit returned instead of being provided with an additional copy.



4.4.1 DIGITIZED DOCUMENTS If the Owner requires that the Owner, Design Professional, Construction Manager and Trade Contractor exchange documents and data in electronic or digital form, prior to any such exchange, the Owner, Design Professional, Construction Manager and Trade Contractor shall agree on a written protocol governing all exchanges in ConsensusDocs 200.2 or a separate Agreement, which, at a minimum, shall specify: (a) the definition of documents and data to be accepted in electronic or digital form or to be transmitted electronically or digitally; (b) management and coordination responsibilities; (c) necessary equipment, software and services; (d) acceptable formats, transmission methods and verification procedures; (e) methods for maintaining version control; (f) privacy and security requirements; and (g) storage and retrieval requirements. Except as otherwise agreed to by the Parties in writing, the Parties shall each bear their own costs as identified in the protocol. In the absence of a written protocol, use of documents and data in electronic or digital form shall be at the sole risk of the recipient.

4.5 OWNER'S CUTTING AND PATCHING Cutting, patching or altering the Trade Contract Work by the Owner or Others shall be done with the prior written approval of the Trade Contractor, which approval shall not be unreasonably withheld.

4.6 OWNER'S RIGHT TO CLEAN UP In case of a dispute between the Trade Contractor and Others with regard to respective responsibilities for cleaning up at the Worksite, the Owner may implement appropriate cleanup measures after two (2) business Days' notice and allocate the cost among those responsible during the following pay period.

4.7 COST OF CORRECTING DAMAGED OR DESTROYED WORK With regard to damage or loss attributable to the acts or omissions of the Owner or Others and not to the Trade Contractor, the Owner may either (a) promptly remedy the damage or loss or (b) accept the damage or loss. If the Trade Contractor incurs additional costs or is delayed due to such loss or damage, the Trade Contractor shall be entitled to an equitable adjustment in the Trade Contract Price or Trade Contract Time.

ARTICLE 5 SUBCONTRACTS

5.1 SUBCONTRACTORS The Trade Contract Work not performed by the Trade Contractor with its own forces shall be performed by Subcontractors.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE TRADE CONTRACT WORK

5.2.0 The Trade Contractor must identify all Subcontractors and suppliers within 48 hours of the published date and time for which bids must be submitted, in accordance with Iowa Code Section 8A.311, as amended by House File 646 in 2011. Subcontractors and suppliers may not be changed without the approval of the Owner. Requests for changing a Subcontractor or supplier must identify the reason for the proposed change, the name of the new Subcontractor or supplier, and the change in the subcontractor or supplier price as a result of the change. Any reduction in subcontractor or supplier price as a result of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract Price via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.

5.2.1 If the Owner has a reasonable objection to any proposed subcontractor or material supplier, the Owner shall notify the Trade Contractor in writing.

5.2.2 If the Owner has reasonably and promptly objected as provided in subsection 5.2.1, the Trade Contractor shall not contract with the proposed subcontractor or material supplier, and the Trade Contractor shall propose another Subcontractor acceptable to the Owner. To the extent the substitution results in an increase or decrease in the Trade Contract Price or Trade Contract Time, an appropriate

Trade Contract Change Order shall be issued as provided in ARTICLE 8.

5.3 BINDING OF SUBCONTRACTORS The Trade Contractor agrees to bind every Subcontractor (and require every Subcontractor to so bind its subcontractors) to all the provisions of this Agreement and the Trade Contract Documents as they apply to the Subcontractor's portion of the Trade Contract Work.

5.4 Deleted

5.5 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.5.1 If this Agreement is terminated, each subcontract agreement shall be assigned by the Trade Contractor to the Owner, subject to the prior rights of any surety, provided that:

5.5.1.1 this Agreement is terminated by the Owner pursuant to sections 11.3 or 11.4; and

5.5.1.2 the Owner accepts such assignment after termination by notifying the Subcontractor and Trade Contractor in writing, and assumes all rights and obligations of the Contractor pursuant to each subcontract agreement.

5.5.2 If the Owner accepts such an assignment, and the Work has been suspended for more than thirty (30) consecutive Days, following termination, if appropriate, the Subcontractor's compensation shall be equitably adjusted as a result of the suspension.

ARTICLE 6 TRADE CONTRACT TIME

6.1 PERFORMANCE OF THE TRADE CONTRACT WORK

6.1.1 DATE OF COMMENCEMENT The Date of Commencement is the date of Owner's written notice to proceed unless otherwise set forth below:

6.1.2 TIME Substantial Completion of the Trade Contract Work shall be achieved in xxx (xx) Days from the Date of Commencement. Unless otherwise specified in the Certificate of Substantial Completion, the Trade Contractor shall achieve Final Completion within 30 Days after the date of Substantial Completion, subject to adjustments as provided for in the Trade Contract Documents.

6.1.3 Time limits stated above are of the essence of this Agreement.

6.1.4 Unless instructed by the Owner in writing, the Trade Contractor shall not knowingly commence the Trade Contract Work before the effective date of insurance to be provided by the Trade Contractor and Owner as required by the Trade Contract Documents.

6.2 CONSTRUCTION SCHEDULE Prior to the commencement of the construction of the Trade Contract Work, the Trade Contractor shall submit a copy of its critical path method (CPM) construction schedule showing the completion of the Trade Contract Work within the allowable number of days identified above. The Trade Contractor shall regularly update its CPM construction schedule for the Trade Contract Work and promptly furnish the Construction Manager on an ongoing basis scheduling information requested by the Construction Manager for the Trade Contract Work. In consultation with the Trade Contractor, the Construction Manager shall incorporate the Trade Contract Work and work of other trade contractors into an overall Construction Schedule for the entire Project. The Trade Contractor shall be bound by the Construction. Nothing in this Trade Contractor Agreement shall relieve the Trade Contractor of any liability for any unexcused failure to comply with its original schedule, the Construction Schedule, or any completion dates. The Construction Manager shall have the right to coordinate the Trade Contractors, including the right, if necessary, to change the time, order and priority in which the various portions of the Trade Contract Work and the other work associated with the Project shall be performed.

6.3 DELAYS AND EXTENSIONS OF TIME

6.3.1 If the Trade Contractor is delayed at any time in the commencement or progress of the Work by any cause beyond the control of the Trade Contractor, the Trade Contractor shall be entitled to an equitable extension of the Trade Contract Time if the Trade Contractor is able to show that the critical path of the Trade Contract Work was delayed by causes beyond the control of the Trade Contractor. Examples of causes beyond the control of the Trade Contractor include, but are not limited to, the following: acts or omissions of the Owner, the Design Professional, Construction Manager or Others; changes in the Work or the sequencing of the Work ordered by the Owner, or arising from decisions of the Owner that impact the time of performance of the Work; transportation delays not reasonably foreseeable; labor disputes not involving the Trade Contractor; general labor disputes impacting the Project but not specifically related to the Worksite; fire; terrorism, epidemics, adverse governmental actions, unavoidable accidents or circumstances; adverse weather conditions not reasonably anticipated; encountering Hazardous Materials; concealed or unknown conditions; delay authorized by the Owner pending dispute resolution; and suspension by the Owner under section 11.1. The Trade Contractor shall submit any requests for equitable extensions of Contract Time in accordance with the provisions of ARTICLE 8.

6.3.2 In addition, if the Trade Contractor is able to show that it incurred additional costs because the critical path of the Trade Contract Work was delayed by acts or omissions of the Owner, the Design Professional, Construction Manager or Others, changes in the Work or the sequencing of the Work ordered by the Owner, or arising from decisions of the Owner that impact the time of performance of the Work, encountering Hazardous Materials, or concealed or unknown conditions, delay authorized by the Owner pending dispute resolution or suspension by the Owner under section 11.1, then the Trade Contractor shall be entitled to an equitable adjustment in the Trade Contract Price subject to section 6.6.

6.3.3 NOTICE OF DELAYS In the event delays to the Trade Contract Work are encountered for any reason, the Trade Contractor shall provide prompt written notice to the Owner and the Construction Manager of the cause of such delays after Trade Contractor first recognizes the delay. The Owner and Trade Contractor agree to undertake reasonable steps to mitigate the effect of such delays.

6.4 NOTICE OF DELAY CLAIMS If the Trade Contractor believes it is due an equitable extension of Trade Contract Time or an equitable adjustment in Trade Contract Price as a result of a delay described in subsection 6.3.1, the Trade Contractor shall give the Owner and the Construction Manager written notice of the claim in accordance with section 8.4. If the Trade Contractor causes delay in the completion of the Trade Contract Work, the Owner shall be entitled to recover its additional costs subject to subsection 6.6. The Owner shall process any such claim against the Trade Contractor in accordance with ARTICLE 8.

6.5 LIQUIDATED DAMAGES

6.5.1 SUBSTANTIAL COMPLETION The Owner and the Trade Contractor agree that this Agreement shall shall not (indicate one) provide for the imposition of liquidated damages based on the Date of Substantial Completion.

6.5.1.1 The Trade Contractor understands that if the Date of Substantial Completion established by this Agreement, as may be amended by subsequent Trade Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Trade Contractor agrees that if the Date of Substantial Completion is not attained the Trade Contractor shall pay the Owner Zero Dollars and No Cents (\$0.00) as liquidated damages and not as a penalty for each day that Substantial Completion extends beyond the Date of Substantial Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all

extra costs, losses, expenses, claims, penalties and any other damages of whatsoever nature incurred by the Owner which are occasioned by any delay in achieving the Date of Substantial Completion.

6.5.2 FINAL COMPLETION The Owner and the Trade Contractor agree that this Agreement shall / shall not (indicate one) provide for the imposition of liquidated damages based on the Date of Final Completion.

6.5.2.1 The Trade Contractor understands that if the Date of Final Completion established by this Agreement, as may be amended by subsequent Trade Change Order is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Trade Contractor agrees that if the Date of Final Completion is not attained the Trade Contractor shall pay the Owner Zero Dollars and No Cents (\$0.00) as liquidated damages and not as a penalty for each day that Final Completion extends beyond the Date of Final Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties and any other damages of whatsoever nature incurred by the Owner which are occasioned by any delay in achieving the Date of Final Completion.

6.5.3 OTHER LIQUIDATED DAMAGES The Owner and the Trade Contractor may agree upon the imposition of liquidated damages based on other project milestones or performance requirements. Such agreement shall be included as an exhibit to this Agreement.

6.6 LIMITED MUTUAL WAIVER OF CONSEQUENTIAL DAMAGES Except for damages mutually agreed upon by the Parties as liquidated damages in Section 6.5 and excluding losses covered by insurance required by the Trade Contract Documents, the Owner and the Trade Contractor agree to waive all claims against each other for any consequential damages that may arise out of or relate to this Agreement, except for those specific items of damages excluded from this waiver as mutually agreed upon by the Parties and identified below. The Owner agrees to waive damages including but not limited to the Owner's loss of use of the Project, any rental expenses incurred, loss of income, profit or financing related to the Project, as well as the loss of business, loss of financing, principal office overhead and expenses, loss of profits not related to this Project, loss of reputation, or insolvency. The Trade Contractor agrees to waive damages including but not limited to loss of business, loss of financing, principal office overhead and expenses, loss of profits not related to this Project, loss of bonding capacity, loss of reputation, or insolvency. The provisions of this section shall also apply to the termination of this Agreement and shall survive such termination.

6.6.1 The following items of damages are excluded from this mutual waiver: The provisions of this section shall also apply to the termination of this Agreement and shall survive such termination. The Owner and the Trade Contractor shall require similar waivers in contracts with Subcontractors and Others retained for the Project.

ARTICLE 7 TRADE CONTRACT PRICE

7.1 LUMP SUM As full compensation for performance by the Trade Contractor of the Work in conformance with the Contract Documents, the Owner shall pay the Trade Contractor the lump sum price of: XX dollars and XX cents (\$XX.XX). The lump sum price is hereinafter referred to as the Trade Contract Price, which shall be subject to increase or decrease as provided in article 8.

Lump Sum Price includes Base Bid of \$X.XX and Alternate #XX for {alternate description} for \$X.XX for a total Lump Sum Price of \$X.XX.

7.2 ALLOWANCES

7.2.1 All allowances stated in the Trade Contract Documents shall be included in the Trade Contract Price. The Owner shall select allowance items in a timely manner so as not to delay the Trade Contract

Work.

7.2.2 Allowances shall include the costs of materials, supplies and equipment delivered to the Worksite, less applicable trade discounts and including requisite taxes, unloading and handling at the Worksite, and labor and installation, unless specifically stated otherwise. The Trade Contractor's Overhead and profit for the allowances shall be included in the Trade Contract Price, but not in the allowances. The Trade Contract Price shall be adjusted by Trade Contract Change Order to reflect the actual costs when they are greater than or less than the allowances.

ARTICLE 8 CHANGES

Changes in the Trade Contract Work that are within the general scope of this Agreement shall be accomplished, without invalidating this Agreement, by Trade Contract Change Order, and Trade Contract Interim Directed Change.

8.1 TRADE CHANGE ORDER

8.1.1 The Owner may order or the Trade Contractor may request changes in the Trade Contract Work or the timing or sequencing of the Trade Contract Work that impacts the Trade Contract Price or the Trade Contract Time. All such changes in the Trade Contract Work that affect Trade Contract Time or Trade Contract Price shall in the form of a Trade Contract Change Order. Any such requests for a change in the Trade Contract Price or the Trade Contract Time shall be processed in accordance with this article 8. Trade Contract Change Orders shall be executed on the ConsensusDOCS 813 - Trade Contract Change Order (CM as Owner's Agent) with attachments as necessary.

8.1.2 The Owner, with the assistance of the Construction Manager, and the Trade Contractor shall negotiate in good faith an appropriate adjustment to the Trade Contract Price or the Trade Contract Time and shall conclude these negotiations as expeditiously as possible. Acceptance of the Trade Contract Change Order and any adjustment in the Trade Contract Price or Trade Contract Time shall not be unreasonably withheld.

8.2 TRADE CONTRACT INTERIM DIRECTED CHANGE

8.2.1 The Construction Manager may issue a written Trade Contract Interim Directed Change signed by the Owner directing a change in the Trade Contract Work prior to reaching agreement with the Trade Contractor on the adjustment, if any, in the Trade Contract Price or the Trade Contract Time.

8.2.2 The Owner, with the assistance of the Construction Manager, and the Trade Contractor shall negotiate expeditiously and in good faith for appropriate adjustments, as applicable, to the Trade Contract Price or the Trade Contract Time arising out of a Trade Contract Interim Directed Change. As the Trade Contract Changed Work is performed, the Trade Contractor shall submit its costs for such work with its application for payment beginning with the next application for payment within thirty (30) Days of the issuance of the Trade Contract Interim Directed Change. If there is a dispute as to the cost to the Owner, the Trade Contractor shall continue to perform the Trade Contract Changed Work set forth in the Trade Contract Interim Directed Change and the Owner shall pay the requirements Trade Contractor the Cost of the Work, defined in 8.3.1.3 below upon receipt of an application for payment and the Owner's (and the Architect's and construction manger's) determination that the work has been completed. The Parties reserve their rights as to the disputed amount, subject to the requirements ARTICLE 12.

8.2.3 When the Owner and the Trade Contractor agree upon the adjustment in the Trade Contract Price or the Trade Contract Time, for a change in the Trade Contract Work directed by a Trade Contract Interim Directed Change, such agreement shall be the subject of a Trade Contract Change Order. The

Trade Contract Change Order shall include all outstanding Trade Contract Interim Directed Changes on which the Owner and Trade Contractor have reached agreement on Contract Price or Contract Time issued since the last Trade Contract Change Order.

8.3 DETERMINATION OF COST

8.3.1 An increase or decrease in the Trade Contract Price or the Trade Contract Time resulting from a change in the Trade Contract Work shall be determined by one or more of the following methods:

8.3.1.1 unit prices set forth in this Agreement or as subsequently agreed;

8.3.1.2 a mutually accepted, itemized lump sum;

8.3.1.3 **COST OF THE WORK** Cost of the Work as defined by this subsection plus 10.0 % for Overhead and 5.0 % for profit. "Cost of the Work" shall include the following costs reasonably incurred to perform a change in the Work

8.3.1.3.1 wages paid for labor in the direct employ of the Constructor in the performance of the Work;

8.3.1.3.2 salaries of the Trade Contractor's employees when stationed at the field office to the extent necessary to complete the applicable Work, employees engaged on the road expediting the production or transportation of material and equipment, and supervisory employees from the principal or branch office performing the functions listed below;

8.3.1.3.3 cost of applicable employee benefits and taxes, including but not limited to, workers' compensation, unemployment compensation, social security, health, welfare, retirement and other fringe benefits as required by law, labor agreements, or paid under the Trade Contractor's standard personnel policy, insofar as such costs are paid to employees of the Trade Contractor who are included in the Cost of the Work in subsections .1 and .2 immediately above;

8.3.1.3.4 reasonable transportation, travel, and hotel expenses of the Trade Contractor's personnel incurred in connection with the Work;

8.3.1.3.5 cost of all materials, supplies, and equipment incorporated in the Work, including costs of inspection and testing if not provided by the Owner, transportation, storage, and handling;

8.3.1.3.6 payments made by the Trade Contractor to Subcontractors for Work performed under this Agreement;

8.3.1.3.7 cost, including transportation and maintenance of all materials, supplies, equipment, temporary facilities, and hand tools not owned by the workers that are used or consumed in the performance of the Work, less salvage value or residual value; and cost less salvage value of such items used, but not consumed that remain the property of the Trade Contractor;

8.3.1.3.8 rental charges of all necessary machinery and equipment, exclusive of hand tools owned by workers, used at the Worksite, whether rented from the Trade Contractor or Others, including installation, repair and replacement, dismantling, removal, maintenance, transportation, and delivery costs. Rental from unrelated third parties shall be reimbursed at actual cost. Rentals from the Trade Contractor or its affiliates, subsidiaries, or related parties shall be reimbursed at the prevailing rates in the locality of the Worksite up to eighty-five percent (85%) of the value of the piece of equipment;

8.3.1.3.9 cost of the premiums for all insurance and surety bonds which the Trade Contractor is

required to procure or deems necessary, and approved by the Owner including any additional premium incurred as a result of any increase in the cost of the Work;

8.3.1.3.10 sales, use, gross receipts or other taxes, tariffs, or duties related to the Work for which the Trade Contractor is liable;

8.3.1.3.11 permits, fees, licenses, tests, and royalties;

8.3.1.3.12 reproduction costs, photographs, facsimile transmissions, long-distance telephone calls, data processing costs and services, postage, express delivery charges, data transmission, telephone service, and computer-related costs at the Worksite to the extent such items are used and consumed in the performance of the Work or are not capable of use after completion of the Work;

8.3.1.3.13 all water, power, and fuel costs necessary for the Work;

8.3.1.3.14 cost of removal of all nonhazardous substances, debris, and waste materials;

8.3.1.3.15 all costs directly incurred to perform a change in the Work which are reasonably inferable from the Contract Documents for the Changed Work;

8.3.1.3.16 DISCOUNTS All discounts for prompt payment shall accrue to the Owner to the extent such payments are made directly by the Owner. To the extent payments are made with funds of the Constructor, all cash discounts shall accrue to the Constructor. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment, shall be credited to the Cost of the Work;

8.3.1.3.17 COST REPORTING The Trade Contractor shall maintain in conformance with generally accepted accounting principles a complete and current set of records that are prepared or used by the Trade Contractor to calculate the Cost of Work. The Owner and Construction Manager shall be afforded access to the Trade Contractor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda and similar data relating to requested payment for Cost of the Work. The Trade Contractor shall preserve all such records for a period of three years after the final payment or longer where required by law;

8.3.1.3.18 COST AND SCHEDULE ESTIMATES The Trade Contractor shall use reasonable skill and judgment in the preparation of a cost estimate or schedule for a change to the Work, but does not warrant or guarantee their accuracy

8.3.1.4 If an increase or decrease cannot be agreed to as set forth in Clauses .1 through .3 above, and the Owner or the Construction Manager issues a Trade Contract Interim Directed Change, the cost of the change in the Trade Contract Work shall be determined by the reasonable actual expense and savings of the performance of the Work resulting from the change. If there is a net increase in the Trade Contract Price, the Trade Contractor's Fee shall be adjusted accordingly. In case of a net decrease in the Trade Contract Price, the Trade Contractor's Fee shall not be adjusted unless ten percent (10%) or more of the Project is deleted. The Trade Contractor shall maintain a documented, itemized accounting evidencing the expenses and savings.

8.3.2 If unit prices are set forth in the Trade Contract Documents or are subsequently agreed to by the Parties, but the character or quantity of such unit items as originally contemplated is so different in a proposed Trade Change Order that the original unit prices will cause substantial inequity to the Owner or the Trade Contractor, such unit prices shall be equitably adjusted.

8.4 CLAIMS FOR ADDITIONAL COST OR TIME Except as provided in subsection 6.3.2 and section 6.4 for

any claim for an increase in the Trade Contract Price or the Trade Contract Time, the Trade Contractor shall give the Owner and the Construction Manager written notice of the claim within fourteen (14) Days after the occurrence giving rise to the claim or within fourteen (14) Days after the Trade Contractor first recognizes (or should have recognized) the condition giving rise to the claim, whichever is later. Except in an emergency, notice shall be given before proceeding with the Trade Contract Work. Thereafter, the Trade Contractor shall submit written documentation of its claim, including appropriate supporting documentation, within twenty-one (21) Days after giving notice, unless the Parties mutually agree upon a period of time. The Owner or Construction Manager shall respond in writing denying or approving the Trade Contractor's claim no later than fourteen (14) Days after receipt of the Trade Contractor's claim. Any change in the Trade Contract Price or the Trade Contract Time resulting from such claim shall be authorized by Trade Contract Change Order.

ARTICLE 9 PAYMENT

9.1 GENERAL PROVISIONS Within fourteen (14) calendar Days from the date of execution of this Agreement, the Trade Contractor shall prepare and submit to the Construction Manager for approval a Schedule of Values apportioned to the various divisions or phases of the Trade Contract Work. Each line item contained in the Schedule of Values shall be assigned a monetary price such that the total of all such items shall equal the Trade Contract Price. The Schedule of Values shall be prepared in such detail and be supported by such documents and proof as may be required by the Construction Manager.

9.2 PROGRESS PAYMENTS

9.2.1 APPLICATIONS The Trade Contractor shall submit to the Construction Manager monthly notarized applications for payment. Trade Contractor's applications for payment shall be itemized and supported by the Trade Contractor's Schedule of Values and any other substantiating data as required by this Trade Contractor Agreement or requested by the Construction Manager or Design Professional. Payment applications may include payment requests on account of properly authorized Trade Contract Change Orders and Interim Directed Changes. The progress payment application shall include Trade Contract Work performed through the preceding calendar month. The Construction Manager will review the application and recommend to the Design professional and the Owner amounts payable by the Owner to the Trade Contractor. The Owner, in accordance with the determination of the Design Professional, shall pay the amount otherwise due on any payment application, less any amounts as set forth below, no later than thirty (30) calendar Days after the payment application, or portion thereof, is approved the Design Professional. The Owner may deduct, from any progress payment, such amounts as may be retained pursuant to subsection 9.2.4 below.

9.2.2 STORED MATERIALS AND EQUIPMENT Unless otherwise provided in the contract documents, applications for payment may include materials and equipment not yet incorporated into the Work but delivered to and suitably stored onsite or offsite including applicable insurance, storage and costs incurred transporting the materials to an offsite storage facility. Approval of payment applications for stored materials and equipment stored offsite shall be conditioned on submission by the Trade Contractor of bills of sale and proof of required insurance, or such other procedures satisfactory to the Owner to establish the proper valuation of the stored materials and equipment, the Owner's title to such materials and equipment, and to otherwise protect the Owner's interests therein, including transportation to the site.

9.2.3 CLAIM WAIVERS

9.2.3.1 PARTIAL CLAIMWAIVERS AND AFFIDAVITS As a prerequisite for payment, the Trade Contractor shall provide, in a form satisfactory to the Owner and the Construction Manager, partial claim waivers in the amount of the application for payment and affidavits from the Trade Contractor, and its Subcontractors, Material Suppliers for the completed Trade Contract Work.

Such waivers shall be effective upon payment. In no event shall the Trade Contractor be required to sign an unconditional waiver of claim, either partial or final, prior to receiving payment or in an amount in excess of what it has been paid.

9.2.4 RETAINAGE From each progress payment made to the Trade Contractor has the Owner shall retain FIVE (5) percent of the amount otherwise due after deduction of any amounts as provided in section 9.3 and in no event shall such percentage exceed any applicable statutory requirements of this Agreement. Retainage shall be withheld and administered in accordance with Iowa Code Chapter 572:

9.3 ADJUSTMENT OF TRADE CONTRACTOR'S PAYMENT APPLICATION The Owner or the Construction Manager, upon notification of the Design Professional, may reject or adjust a Trade Contractor payment application or nullify a previously approved Trade Contractor payment application, in whole or in part, as may reasonably be necessary to protect the Owner from loss or damage based upon the following, to the extent that the Trade Contractor is responsible therefor under this Trade Contractor Agreement:

9.3.1 the Trade Contractor's repeated failure to perform the Trade Contract Work as required by the Trade Contractor Agreement;

9.3.2 loss or damage arising out of or relating to the Trade Contractor Agreement and caused by the Trade Contractor to the Owner, or to the Construction Manager or others to whom the Owner may be liable;

9.3.3 the Trade Contractor's failure to properly pay for labor, materials, equipment or supplies furnished in connection with the Trade Contract Work;

9.3.4 nonconforming or defective Trade Contract Work which has not been corrected in a timely fashion;

9.3.5 reasonable evidence of delay in performance of the Trade Contract Work such that the work will not be completed within the Trade Contract Time, and that the unpaid balance of the Trade Contract Price is not sufficient to offset any liquidated damages or actual damages that may be sustained by the Owner as a result of the anticipated delay caused by the Trade Contractor;

9.3.6 reasonable evidence demonstrating that the unpaid balance of the Trade Contract Price is insufficient to cover the cost to complete the Trade Contract Work; and

9.3.7 third-party claims involving the Trade Contractor or reasonable evidence demonstrating that third-party claims are likely to be filed unless and until the Trade Contractor furnishes the Owner with adequate security in the form of a surety bond, letter of credit or other collateral or commitment which are sufficient to discharge such claims if established. No later than thirty (30) Days after receipt of an application for payment, the Owner or Construction Manager shall give written notice to the Trade Contractor, disapproving or nullifying it or a portion thereof, specifying the reasons for the disapproval or nullification. When the above reasons for disapproving or nullifying an application for payment are removed, payment will be made for amounts previously withheld.

9.4 PAYMENT NOT ACCEPTANCE Payment to the Trade Contractor does not constitute or imply acceptance of any portion of the Trade Contract Work.

9.5 PAYMENT DELAY If for any reason not the fault of the Trade Contractor, the Trade Contractor does not receive a progress payment from the Owner sixty (60) calendar Days after the time such payment is due, as defined in Subparagraph 9.2.1, then the Trade Contractor, upon giving within seven (7) calendar Days after written notice to the Owner, and without prejudice to and in addition to any other legal remedies, may stop its Trade Contract Work until payment of the full amount owing to the Trade Contractor has been received. The

Trade Contract Price and Trade Contract Time shall be equitably adjusted by a Trade Contract Change Order to reflect reasonable cost and delay resulting from shutdown, delay and start-up.

9.6 SUBSTANTIAL COMPLETION

9.6.1 The Trade Contractor shall notify the Owner, the Construction Manager and the Design Professional when it considers Substantial Completion of the Trade Contract Work or a designated portion to have been achieved. The Construction Manager and the Design Professional shall promptly conduct an inspection to determine whether the Trade Contract Work or designated portion can be occupied or utilized for its intended use by the Owner without excessive interference in completing any remaining unfinished Trade Contract Work by the Trade Contractor. If the Construction Manager and the Design Professional determine that the Trade Contract Work or designated portion has not reached Substantial Completion, the Design Professional, and the Construction Manager, shall promptly compile a list of items to be completed or corrected so the Owner may occupy or utilize the Trade Contract Work or designated portion for its intended use. The Trade Contractor shall promptly complete all items on the list.

9.6.2 When Substantial Completion of the Trade Contract Work or a designated portion is achieved, the Construction Manager and the Design Professional shall prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, and the respective responsibilities of the Owner and Trade Contractor for interim items such as security, maintenance, utilities, insurance and damage to the Trade Contract Work. The Owner shall assume all responsibilities for items such as security, maintenance, utilities, and insurance, and damage to the Work. The certificate shall also list the items to be completed or corrected, and establish the time for their completion or correction. The Certificate of Substantial Completion shall be submitted to the Trade Contractor for written acceptance of responsibilities assigned in the Certificate.

9.6.3 Unless otherwise provided in the Certificate of Substantial Completion, warranties required by the Trade Contract Documents shall commence on the date of Substantial Completion of the Trade Contract Work or a designated portion.

9.6.4 Uncompleted items shall be completed by the Trade Contractor by the Final Completion date set forth in the Agreement and/or Construction Schedule. The Trade Contractor may request early release of retainage in accordance with Iowa Code Section 26.13. Payment for completed work and retainage shall be made in accordance with Iowa Code Chapters 26 and 573.

9.7 PARTIAL OCCUPANCY OR USE The Owner may occupy or use completed or partially completed portions of the Trade Contract Work when (a) the portion of the Trade Contract Work is designated in a Certificate of Substantial Completion, (b) appropriate insurer(s) consent to the occupancy or use, and (c) appropriate public authorities authorize the occupancy or use. Such partial occupancy or use shall constitute Substantial Completion of that portion of the Trade Contract Work.

9.8 FINAL PAYMENT

9.8.1 APPLICATION Upon acceptance of the Trade Contract Work by the Construction Manager, and approval by the Design Professional, and upon the Trade Contractor furnishing evidence of fulfillment of the Trade Contractor's obligations in accordance with the Trade Contract Documents, the Trade Contractor shall submit its application for final payment. The Construction Manager will review the Trade Contractor's final payment application and recommend to the Design Professional and the Owner an amount payable by the Owner to the Trade Contractor. The Design Professional shall then recommend an amount to be paid by the Owner. Final payment shall be made in accordance with Iowa Code Chapters 26 and 573.

9.8.2 REQUIREMENTS Along with its application for final payment, the Trade Contractor shall furnish to the Construction Manager:

9.8.2.1 an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Trade Contract Work for which the Owner or its property or the Construction Manager or the Owner's surety might in any way be liable, have been paid or otherwise satisfied;

9.8.2.2 consent of the Trade Contractor's surety to final payment;

9.8.2.3 satisfaction of closeout procedures as may be required by the Trade Contractor Agreement;

9.8.2.4 certification (or other writing indicating) that insurance required by the Trade Contractor Agreement is and will remain effect beyond final payment pursuant to this Trade Contractor Agreement and

9.8.2.5 other data if required by the Owner or Construction Manager, such as receipts, releases, and waivers of liens effective upon payment to the extent and in such form as may be designated by the Owner or Construction Manager. Acceptance of final payment by the Trade Contractor shall constitute a waiver of all claims by the Trade Contractor except those previously made in writing and identified by the Trade Contractor as unsettled at the time of final application for payment.

9.8.3 TIME OF PAYMENT Final payment of the balance of the Trade Contract Price, less any amount retained pursuant to subsection 9.2.4 of this Agreement, and as required by Iowa Code Chapters 26 and 573, which among other things requires that twice the amount of an Iowa Code Chapter 573 subcontractor claim be withheld from final payment, shall be made to the Trade contractor within sixty (60) Days after the Trade Contractor has submitted a complete and accurate application for final payment.

9.8.4 LATE PAYMENT INTEREST Progress payments or final payment due and unpaid under this Trade Contractor Agreement shall bear interest from the date payment is due at the statutory rate prevailing at the place of the Project.

9.9 PAYMENT USE AND VERIFICATION The Trade Contractor is required to pay for all labor, materials and equipment used in the performance of the Trade Contract Work through the most current period applicable to progress payments received. Reasonable evidence, satisfactory to the Construction Manager, may be required to show that all obligations relating to the Trade Contract Work are current before releasing any payment due on the Trade Contract Work. If required by the Construction Manager, before final payment is made for the Trade Contract Work, the Trade Contractor shall submit evidence satisfactory to the Construction Manager that all payrolls, bills for materials and equipment, and all known indebtedness connected with the Trade Contract Work, have been paid or otherwise satisfied as set forth in subsection 9.8.2.

ARTICLE 10 INDEMNITY, INSURANCE, WAIVERS AND BONDS

10.1 INDEMNITY

10.1A To the extent portions of this Article are in conflict with SF 396 (codified at Iowa Code Section 573A.5) said portions are void and unenforceable.

10.1.1 TRADE CONTRACTOR'S INDEMNITY To the fullest extent permitted by law, the Trade Contractor shall indemnify and hold harmless the Owner, the Owner's officers, directors, members,

consultants, agents and employees, from all claims for bodily injury and property damage, other than to the Work itself and other property insured under subsection 10.3.1, including reasonable attorneys' fees, costs and expenses, that may arise from the performance of the Work, but only to the extent caused by the negligent acts or omissions of the Trade Contractor, Subcontractors or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable. The Trade Contractor shall be entitled to reimbursement of any defense costs paid above the Trade Contractor's percentage of liability for the underlying claim to the extent provided for under subsection 10.1.2.

10.1.2 OWNER'S INDEMNITY To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Trade Contractor, its officers, directors, members, consultants, agents, and employees, from all claims for bodily injury and property damage, other than property insured under subsection 10.3.1, including reasonable attorneys' fees, costs and expenses, that may arise from the performance of work by Owner, Design Professional or Others, but only to the extent caused by the negligent acts or omissions of the Owner, Design Professional or Others. The Owner shall be entitled to reimbursement of any defense costs paid above Owner's percentage of liability for the underlying claim to the extent provided for under subsection 10.1.1.

10.1.3 CONSTRUCTION MANAGER AND DESIGN PROFESSIONAL INDEMNITY The Owner shall cause the Construction Manager and the Design Professional to agree to indemnify and hold harmless the Owner from all claims for bodily injury and property damage, other than to the Work itself and other property insured under section 10.3, that may arise from the Construction Manager's or the Design Professional's services, but only to the extent that such claims result from the negligent acts or omissions of the Construction Manager or the Design Professional, respectively, or anyone for whose acts or omissions the Construction Manager or Design Professional, respectively, is liable. Such provisions shall be in a form no less protective of the Parties than the Construction Manager's Indemnity provided in ConsensusDocs 801 (2011) or the Design Professional's indemnity provided in ConsensusDocs 803 (2011) respectively, and shall be reasonably satisfactory to the Owner and the Trade Contractor.

10.1.4 ADJACENT PROPERTY INDEMNIFICATION To the extent of the limits of Trade Contractor's Commercial General Liability Insurance specified in subsection 10.2.1 or Zero Dollars and No Cents (\$0.00) whichever is more, the Trade Contractor shall indemnify and hold harmless the Owner against any and all liability, claims, demands, damages, losses and expenses, including attorney's fees, in connection with or arising out of any damage or alleged damage to any of Owner's existing adjacent property that may arise from the performance of the Trade Contract Work, but only to the extent of the negligent acts or omissions of the Trade Contractor, Subcontractor or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable.

10.1.5 NO LIMITATION ON LIABILITY In any and all claims against the Indemnitees by any employee of the Trade Contractor, anyone directly or indirectly employed by the Trade Contractor or anyone for whose acts the Trade Contractor may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Trade Contractor under Workers' Compensation acts, disability benefit acts or other employment benefit acts.

10.2 TRADE CONTRACTOR'S INSURANCE

10.2.1 Prior to the start of the Work, the Trade Contractor shall procure and maintain in force Workers Compensation/Employers' Liability Insurance, Business Automobile Liability Insurance, and Commercial General Liability Insurance (CGL). The CGL policy shall include coverage for liability arising from premises, operations, independent contractors, products-completed operations, personal injury and



advertising injury, contractual liability, and broad form property damage. The Trade Contractor's liability policies, as required in this Subparagraph 10.2.1, shall be written on an occurrence basis with at least the following limits of liability:

10.2.1.1 Workers' Compensation- amount required by the laws of Iowa

10.2.1.2 Employers' Liability Insurance - \$500,000 or an amount required by Iowa law, whichever is greater.

10.2.1.3 Business Automobile Liability Insurance

a. \$1,000,000 Each Accident

10.2.1.4 Commercial General Liability Insurance

a. \$1,000,000 Each Occurrence b. \$2,000,000 General Aggregate c. \$1,000,000 Products/Completed Operations Aggregate d. \$1,000,000 Personal and Advertising Injury Limit

10.2.2 The Trade Contractor Must also carry and maintain Excess or Umbrella Liability coverage for the policies in subsection 10.2.1 in the amounts as listed below:

Trade Contractor Contract Amount: <\$1,000,000 - \$2 Million Umbrella or more \$1,000,000 - \$5,000,000 - \$5 Million Umbrella or more >\$5,000,000 - \$10 Million Umbrella or more

10.2.3 The Trade Contractor shall maintain in effect all insurance coverage required under subsection 10.2.1 with insurance companies lawfully authorized to do business in Iowa. Such insurance companies shall have a minimum A.M. Best Rating of A-VI (Consult instructions and insurance advisor). If the Trade Contractor fails to obtain or maintain any insurance coverage required under this Agreement, the Owner may purchase such coverage and charge the expense to the Trade Contractor, or terminate this Agreement.

10.2.4 To the extent commercially available, the policies of insurance required under Subparagraph 10.2.1 shall contain a provision that the insurance company or its designee must give the Owner written notice transmitted in paper or electronic format: (a) 30 days before coverage is nonrenewed by the insurance company and (b) with 10 business days after cancelation of coverage by the insurance company. The Trade Contractor shall maintain completed operations liability insurance for one year after acceptance of the Contract Documents, whichever is longer. Prior to commencement of services, the Trade Contract shall furnish the Owner with certificates evidencing the required coverages. In addition, if any insurance policy required under subsection 10.2.1 is not to be immediately replaced without a lapse in coverage when it expires, exhausts its limits, or is to be, cancelled, the Trade Contractor shall give Owner prompt written notice upon actual or constructive knowledge of such condition.

10.2.5 ADDITIONAL LIABILITY COVERAGE

10.2.5.1 The Owner shall / shall not (indicate one) require the Trade Contractor to purchase and maintain liability coverage, primary to the Owner's coverage under subsection 10.3.1.

10.2.5.2 If required by subsection 10.2.5.1, the additional liability coverage required of the Trade Contractor shall be:

1. Additional Insured Owner shall be named as an additional insured on Trade Contractor's Commercial General Liability Insurance specified for operations and completed operations,

but only with respect to liability for bodily injury, property damage or personal and advertising injury to the extent caused by the negligent acts or omissions of Trade Contractor, or those acting on Trade Contractor's behalf, in the performance of Trade Contractor's Work for.

2. OCP Trade Contractor shall provide an Owners' and Contractors' Protective Liability Insurance ("OCP") policy with limits equal to the limits on Commercial General Liability Insurance specified or limits as otherwise required by Owner.

Any documented additional cost in the form of a surcharge associated with procuring the additional liability coverage in accordance with this subsection shall be paid by the Owner directly or the costs may be reimbursed by the Owner to the Trade Contractor by increasing the Trade Contract Price to correspond to the actual cost required to purchase and maintain the additional liability coverage. Prior to commencement of the Work, the Trade Contractor shall obtain and furnish to the Owner a certificate evidencing that the additional liability coverages have been procured.

10.2.6 PROFESSIONAL LIABILITY INSURANCE To the extent the Trade Contractor is required to procure design services under this Agreement, in accordance with section 3.14, the Trade Contractor shall require the designers to obtain professional liability insurance for claims arising from the negligent performance of professional services under this Agreement, with a company reasonably satisfactory to the Owner, including coverage for all professional liability caused by any of the Designer's(s') consultants, written for not less than \$1,000,000 per claim and in the aggregate with the deductible not to exceed \$2,000,000. The deductible shall be paid by the Designer.

10.3 OWNER'S INSURANCE

10.3.1 Deleted.

10.3.2 Deleted.

10.4 PROPERTY INSURANCE

10.4.1 Before the start of Trade Contract Work, the Owner shall obtain and maintain Builder's Risk Policy insurance with minimum coverage limits equal to the full cost of replacement of the Project at the time of loss. This insurance shall also name the Trade Contractor, Subcontractors, Material Suppliers, Construction Manager and Design Professional as insureds. This insurance shall be written as a Builder's Risk Policy or equivalent form to cover all risks of physical loss except those specifically excluded by the policy, and shall insure at least against the perils of fire, lightning, explosion, windstorm, hail, smoke, aircraft and vehicles, riot and civil commotion, theft, vandalism, malicious mischief, debris removal, flood (subject to sublimits), earthquake (subject to sublimits), earth movement, water damage, wind damage, testing if applicable, collapse however caused, and shall include coverage for, material, or equipment stored offsite, onsite or in transit. This policy shall provide for a waiver of subrogation in favor of the Trade Contractor, Subcontractors, Material Suppliers, Construction Manager and Design Professional. This insurance shall remain in effect until the Substantial Completion of the Work, 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 by this insurance, whichever is sooner. Partial occupancy or use of the Work shall not commence until the Owner has secured the consent of the insurance company or companies providing the coverage required in this Subparagraph 10.4.1.

10.4.2 If the Owner does not intend to purchase the property insurance required by this Agreement, including all of the coverages and deductibles described herein, the Owner shall give written notice to the Trade Contractor, the Design Professional and the Construction Manager before the Trade Contract

Work is commenced. The Trade Contractor may then provide insurance to protect its interests and the interests of the Subcontractors, including the coverage of deductibles. The cost of this insurance shall be charged to the Owner in a Change Order. The Owner shall be responsible for all of Trade Contractor's costs reasonably attributed to the Owner's failure or neglect in purchasing or maintaining the coverage described above.

10.4.2.1 The Owner will not obtain insurance to cover the risk of physical loss resulting from Terrorism. The Construction Manager is not required to purchase this type of insurance but may purchase this type of insurance if it chooses. If purchased, the cost of this insurance shall be borne by the Construction manager.

10.4.3 POLICIES The Owner shall provide the Trade Contractor with a copy of all policies including all endorsements upon request.

10.5 PROPERTY INSURANCE LOSS ADJUSTMENT

10.5.1 LOSS ADJUSTMENT Any insured loss shall be adjusted with the Owner and the Trade Contractor and made payable to the Owner as trustee for the insureds, as their interests may appear.

10.5.2 DISTRIBUTION OF PROCEEDS Following the occurrence of an insured loss, monies received will be deposited in a separate account and the trustee shall make distribution in accordance with the agreement of the Parties in interest.

10.6 WAIVERS

10.6.1 PROPERTY DAMAGE The Owner and Trade Contractor waive all claims and other rights they may have against each other for loss of or damage to (a) the Project, (b) all materials, machinery, equipment and other items used in accomplishing the Trade Contract Work or services or to be incorporated into the Project, while the same are in transit, at the Project Site, during erection and otherwise, and (c) all property owned by or in the custody of Owner and its affiliates, however such loss or damage shall occur, to the extent such damage is covered by property insurance. The proceeds of such insurance shall be held by the Owner as trustee.

10.6.2 WAIVER OF SUBROGATION The Owner shall have its insurers waive all rights of subrogation they may have against the Construction Manager, Design Professional, Trade Contractors, and their Subcontractors and Material Suppliers on all policies carried by the Owner on the Project and adjacent properties, including, after final payment, those policies to be provided on the completed Project not intended to insure the Project during construction.

10.6.3 ENDORSEMENT If the policies of insurance referred to in this section require an endorsement to provide for continued coverage where there is a waiver of subrogation, the Owner will cause them to be so endorsed.

10.7 RISK OF LOSS Except to the extent a loss is covered by property insurance carried by the owner, risk of loss or damage to the Work shall be upon the Trade Contractor until the Date of Final Completion, unless otherwise agreed to by the Parties.

10.8 BONDS Performance and Payment Bonds

are

are not

required of the Trade Contractor that meet the requirements of Iowa Code Chapter 573. A deposit in lieu of a

bond may be acceptable if it meets the requirements of Iowa Code Section 573.4. Such bonds shall be issued by a surety admitted in the State in which the Project is located and must be acceptable to the Owner. The Owner's acceptance shall not be withheld without reasonable cause. The penal sum of the Payment Bond and of the Performance Bond shall each be one hundred percent (100%) of the original Contract Price. Any increase in the Contract Price that exceeds ten percent (10%) in the aggregate shall require a rider to the Bonds increasing penal sums accordingly. Up to such ten percent (10%) amount, the penal sum of the Bond shall remain equal to one hundred percent (100%) of the Contract Price. The Trade Contractor shall endeavor to keep its surety advised of changes potentially impacting the Contract Time and Contract Price, though the Trade Contractor shall require that its surety waives any requirement to be notified of any alteration or extension of time. The Trade Contractor's Payment Bond for the Project, if any, shall be made available by the Owner for review and copying by the Subcontractor. Iowa Code Chapter 573 shall control and take precedence over any conflicting term or condition in this Agreement

ARTICLE 11 SUSPENSION, NOTICE TO CURE AND TERMINATION OF AGREEMENT

11.1 SUSPENSION BY OWNER FOR CONVENIENCE

11.1.1 OWNER SUSPENSION Should the Owner order the Trade Contractor in writing to suspend, delay, or interrupt the performance of the Trade Contract Work for such period of time as may be determined to be appropriate for the convenience of the Owner and not due to any act or omission of the Trade Contractor or any person or entity for whose acts or omissions the Trade Contractor may be liable, then the Trade Contractor shall immediately suspend, delay or interrupt that portion of the Trade Contract Work as ordered by the Owner. The Trade Contract Price and the Trade Contract Time shall be equitably adjusted by Trade Contract Change Order for the cost and delay resulting from any such suspension.

11.1.2 Any action taken by the Owner that is permitted by any other provision of the Trade Contract Documents and that results in a suspension of part or all of the Trade Contract Work does not constitute a suspension of Trade Contract Work under this section.

11.2 NOTICE TO CURE A DEFAULT If the Trade Contractor persistently refuses or fails to supply enough properly skilled workers, proper materials, or equipment to maintain the approved Construction Schedule in accordance with ARTICLE 6, or fails to make prompt payment to its workers, Subcontractors or Material Suppliers; disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction; or is otherwise guilty of a material breach of a provision of this Agreement, the Trade Contractor may be deemed in default. If the Trade Contractor fails within seven (7) business Days after receipt of written notification to commence and continue satisfactory correction of such default with diligence and promptness, then the Owner shall give the Trade Contractor a second notice to correct the default within a three (3) Day period. If the Trade Contractor fails to promptly commence and continue satisfactory correction of the default following receipt of such second notice, the Owner without prejudice to any other rights or remedies may:

11.2.1 supply workers and materials, equipment and other facilities as the Owner or Construction Manager deems necessary for the satisfactory correction of the default, and charge the cost to the Trade Contractor, who shall be liable for the payment of same including reasonable Overhead, profit and attorneys' fees;

11.2.2 contract with Others to perform such part of the Trade Contract Work as the Owner or Construction Manager determines shall provide the most expeditious correction of the default, and charge the cost to the Trade Contractor;

11.2.3 withhold payment due the Trade Contractor in accordance with section 9.3; and

11.2.4 in the event of an emergency affecting the safety of persons or property, immediately commence

and continue satisfactory correction of such default as provided in subsections 11.2.1 and 11.2.2 without first giving written notice to the Trade Contractor, but shall give prompt written notice of such action to the Trade Contractor following commencement of the action.

11.3 OWNER'S RIGHT TO TERMINATE FOR DEFAULT

11.3.1 TERMINATION BY OWNER FOR DEFAULT If, within seven (7) Days of receipt of a notice to cure pursuant to section 11.2, the Trade Contractor fails to commence and satisfactorily continue correction of the default set forth in the notice to cure, the Owner may notify the Trade Contractor that it intends to terminate this Agreement for default absent appropriate corrective action within fourteen additional Days. After the expiration of the additional fourteen (14) Day period, the Owner may terminate this Agreement by written notice absent appropriate corrective action. Termination for default is in addition to any other remedies available to Owner under section 11.2. If the Owner's cost arising out of the Trade Contractor's failure to cure, including the cost of completing the Trade Contract Work and reasonable attorneys' fees, exceeds the unpaid Trade Contract Price, the Trade Contractor shall be liable to the Owner for such excess costs. If the Owner's costs are less than the unpaid Trade Contract Price, the Owner shall pay the difference to the Trade Contractor. In the event the Owner exercises its rights under this section, upon the request of the Trade Contractor the Owner shall furnish to the Trade Contractor a detailed accounting of the cost incurred by the Owner.

11.3.2 USE OF TRADE CONTRACTOR'S MATERIALS, SUPPLIES AND EQUIPMENT If the Owner or Others perform work under this section, the Owner shall have the right to take and use any materials, supplies and equipment belonging to the Trade Contractor and located at the Worksite for the purpose of completing any remaining Trade Contract Work. Immediately upon completion of the Work, any remaining materials, supplies or equipment not consumed or incorporated in the Trade Contract Work shall be returned to the Trade Contractor in substantially the same condition as when they were taken, reasonable wear and tear excepted.

11.3.3 If the Trade Contractor files a petition under the Bankruptcy Code, this Agreement may be terminated for cause at the may be terminated for cause at the Owner.

11.3.3 If the Trade Contractor files a petition under the Bankruptcy Code, this Agreement may be terminated for cause at the may be terminated for cause at the Owner.

11.3.4 The Owner shall make reasonable efforts to mitigate damages arising from Trade Contractor default, and shall promptly invoice the Trade Contractor for all amounts due pursuant to sections 11.2 and 11.3.

11.4 TERMINATION BY OWNER FOR CONVENIENCE

11.4.1 Upon written notice to the Trade Contractor, the Owner may, without cause, terminate this Agreement. The Trade Contractor shall immediately stop the Work, follow the Owner's or Construction Manager's instructions regarding shutdown and termination procedures, and strive to minimize any further costs.

11.4.2 If the Owner terminates this Agreement pursuant to this section, the Trade Contractor shall be paid:

11.4.2.1 for the Work performed to date including Overhead and profit; and

11.4.2.2 for all demobilization costs and costs incurred as a result of the termination but not including Overhead or profit on work not performed;

11.4.2A Upon written notice to the Trade Contractor the Owner has the right to terminate this

Agreement without penalty as a result of the following: 1) the legislature or governor fail to appropriate funds sufficient to allow the Owner to operate as required and fulfill its obligations under this Agreement, 2) funds are de-appropriated or not allocated, 3) the Owner's authorization to operate is withdrawn or there is a material alteration in the programs administered by the owner, or 4) the Owner's duties are substantially modified. If such a termination results then the Trade Contractor shall be paid in the manner set forth in subparagraph 11.4.2. If, however, an appropriation to cover the cost of this Agreement becomes available within sixty (60) days subsequent to termination under this paragraph then the Owner agrees to re-enter into a modified version of this Agreement that accounts for the termination and reinstatement.

11.4.3 If the Owner terminates this Agreement pursuant to sections 11.3 or 11.4, the Trade Contractor shall:

11.4.3 If the Owner terminates this Agreement pursuant to sections 11.3 or 11.4, the Trade Contractor shall:

11.4.3.1 execute and deliver to the Owner all papers and take all action required to assign, transfer and vest in the Owner the rights of the Trade Contractor to all materials, supplies and equipment for which payment has or will be made in accordance with the Trade Contract Documents and all subcontracts, orders and commitments which have been made in accordance with the Trade Contract Documents;

11.4.3.2 exert reasonable effort to reduce to a minimum the Owner's liability for subcontracts, orders and commitments that have not been fulfilled at the time of the termination;

11.4.3.3 cancel any subcontracts, orders and commitments as the Owner or Construction Manager directs; and

11.4.3.4 sell at prices approved by the Owner or Construction Manager any materials, supplies and equipment as the Owner or Construction Manager directs, with all proceeds paid or credited to the Owner.

11.5 TRADE CONTRACTOR'S RIGHT TO TERMINATE

11.5.1 Upon seven (7) Days' written notice to the Owner and Construction Manager, the Trade Contractor may terminate this Agreement if the Trade Contract Work has been stopped for a thirty (30) Day period through no fault of the Trade Contractor for any of the following reasons:

11.5.1.1 under court order or order of other governmental authorities having jurisdiction;

11.5.1.2 as a result of the declaration of a national emergency or other governmental act during which, through no act or fault of the Trade Contractor, materials are not available; or

11.5.1.3 suspension by the Owner for convenience pursuant to section 11.1

11.5.2 In addition, upon seven (7) Days' written notice to the Owner and Construction Manager, the Trade Contractor may terminate the Agreement if the Owner:

11.5.2.1 fails to furnish reasonable evidence pursuant to section 4.1.2 that sufficient funds are available and committed for Project financing, or

11.5.2.2 assigns this Agreement over the Trade Contractor's reasonable objection, or

11.5.2.3 fails to pay the Trade Contractor in accordance with this Agreement and the Trade Contractor has complied with the notice provisions of section 9.5, or

11.5.2.4 otherwise materially breaches this Agreement.

11.5.3 Upon termination by the Trade Contractor in accordance with this section, the Trade Contractor shall be entitled to recover from the Owner payment for all Trade Contract Work executed and for any proven loss, cost or expense in connection with the Trade Contract Work, including all demobilization costs plus reasonable Overhead and profit on work not performed.

11.6 OBLIGATIONS ARISING BEFORE TERMINATION Even after termination pursuant to ARTICLE 11, the provisions of this Agreement still apply to any Trade Contract Work performed, payments made, events occurring, costs charged or incurred or obligations arising before the termination date.

ARTICLE 12 DISPUTE MITIGATION AND RESOLUTION

12.1 WORK CONTINUANCE AND PAYMENT Unless otherwise agreed in writing, the Trade Contractor shall continue the Trade Contract Work and maintain the Construction Schedule during any dispute mitigation or resolution proceedings. If the Trade Contractor continues to perform, the Owner shall continue to make payments in accordance with this Agreement.

12.2 DIRECT DISCUSSIONS If the Parties cannot reach resolution on a matter relating to or arising out of the Agreement, the Parties shall endeavor to reach resolution through good faith direct discussions between the Parties' representatives, who shall possess the necessary authority to resolve such matter and who shall record the date of first discussions. The authorized representative for the Trade Contractor is identified in Paragraph 3.4 of the Agreement. The authorized representative for the Owner is identified in Paragraph 4.2 of the Agreement. The parties' authorized representative are, among other things, authorized to resolve matters of disagreement and disputes between the Parties. If the dispute remains unresolved after fifteen (15) Days from the date of first discussion, the Parties shall submit such matter to the dispute mitigation and dispute resolution procedures selected herein.

12.3 MITIGATION The Parties agree that dispute mitigation procedures provided in this Project. Disputes remaining unresolved after direct discussions shall be directed to the selected mitigation procedure immediately below. The dispute mitigation procedure shall result in nonbinding finding on the matter. This may be introduced as evidence at a subsequent binding adjudication of the matter, as designee on Paragraph 12.5. The Parties agree that the dispute mitigation procedure shall be

(Designate only one.)

Project Neutral

Dispute Review Board

12.3.1 MITIGATION PROCEDURES The Project Neutral/Dispute Review Board shall be mutually selected and appointed by the Parties and shall execute a retainer agreement with the Parties establishing the scope of the Project Neutral/Dispute Review Board's responsibilities. The costs and expenses of the Project Neutral/Dispute Review Board shall be shared equally by the Parties. The Project Neutral/Dispute Review Board shall be available to either Party, upon request, throughout the course of the Project, and shall make regular visits to the Project so as to maintain an up-to-date understanding of the Project progress and issues and to enable the Project Neutral/Dispute Review Board to address matters in dispute between the Parties promptly and knowledgeably. The Project Neutral/Dispute Review Board shall issue nonbinding findings within five (5) business Days of referral of the matter to the Project Neutral, unless good cause is shown.

12.3.2 If the matter remains unresolved following the issuance of the nonbinding finding by the mitigation procedure or if the Project Neutral/Dispute Review Board fails to issue nonbinding findings

within five (5) Days of the referral, the Parties shall submit the matter to the binding dispute resolution procedure designated in section 12.5.

12.4 MEDIATION If direct discussions pursuant to section 12.2 do not result in resolution of the matter and no dispute mitigation procedure is selected under section 12.3, the Parties shall endeavor to resolve the matter by mediation through the current Construction Industry Mediation Rules of the American Arbitration Association, or the Parties may mutually agree to select another set of mediation rules. The administration of the mediation shall be as mutually agreed by the Parties. The mediation shall be convened within thirty (30) business Days of the matter first being discussed and shall conclude within forty-five (45) business Days of the matter first being discussed. Either Party may terminate the mediation at any time after the first session, but the decision to terminate shall be delivered in person by the terminating Party to the non-terminating Party and to the mediator. The costs of the mediation shall be shared equally by the Parties.

12.5 BINDING DISPUTE RESOLUTION If the matter is unresolved after submission of the matter to a mitigation procedure or to mediation, the Parties shall submit the matter to the binding dispute resolution procedure designated herein.

(Designate only one.)

Arbitration using the current Construction Industry Arbitration Rules of the American Arbitration Association

Litigation in either the state or federal court having jurisdiction of the matter in the location of the Project.

12.5.1 The costs of any binding dispute resolution procedures shall be borne by the non-prevailing Party, as determined by the adjudicator of the dispute. However, the costs of binding dispute resolution does not include attorney fees. The Parties are each responsible for paying for their own attorney fees.

12.5.2 VENUE The venue of any binding dispute resolution procedure shall be Des Moines, Iowa.

12.6 MULTIPARTY PROCEEDING All parties necessary to resolve a claim shall be parties to the same dispute resolution proceeding. Appropriate provisions shall be included in all other contracts relating to the Work to provide for the joinder or consolidation of such dispute resolution procedures.

12.7 LIEN RIGHTS The Trade Contractor acknowledges that it has no mechanic's lien rights on this Project because it is a public improvement project.

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 ASSIGNMENT Neither the Owner nor the Trade Contractor shall assign their interest in this Agreement without the written consent of the other except as to the assignment of proceeds. The terms and conditions of this Agreement shall be binding upon both Parties, their partners, successors, assigns and legal representatives. Neither Party to this Agreement shall assign the Agreement as a whole without written consent of the other. If either Party attempts to make such an assignment, that Party shall nevertheless remain legally responsible for all obligations under this Agreement, unless otherwise agreed by the other Party.

13.2 GOVERNING LAW This Agreement and all disputes arising there from shall be governed by the Iowa law.

13.3 SEVERABILITY The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision.

13.4 NO WAIVER OF PERFORMANCE The failure of either Party to insist, in any one or more instances, on the performance of any of the terms, covenants or conditions of this Agreement, or to exercise any of its rights, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right with respect to further performance or any other term, covenant, condition or right.

13.5 TITLES AND GROUPINGS The titles given to the articles of this Agreement are for ease of reference only and shall not be relied upon or cited for any other purpose. The grouping of the articles in this Agreement and of the Owner's specifications under the various headings is solely for the purpose of convenient organization and in no event shall the grouping of provisions, the use of sections or the use of headings be construed to limit or alter the meaning of any provisions.

13.6 ASSISTANCE OF COUNSEL AND INTERPRETATION The Parties agree that they had the opportunity to obtain the assistance of counsel in reviewing the Agreement terms prior to execution. This Agreement shall be construed neither against nor in favor of either Party, but shall be construed in a neutral manner.

13.7 RIGHTS AND REMEDIES The Parties' rights, liabilities, responsibilities and remedies with respect to this Agreement, whether in contract, tort, negligence or otherwise, shall be exclusively those expressly set forth in this Agreement.

13.8 ADDITIONAL PROVISIONS (Insert here other provisions, if any, that pertain to this Agreement See Below.)

13.9 COMPLIANCE WITH LAW AND REGULATIONS The Trade Contractor shall comply with all applicable federal, state, and local laws, rules, ordinances, regulations and orders when performing services and/or performing work under this Agreement, including without limitation, all laws applicable to the prevention of discrimination in employment and the use of targeted small businesses as subcontractors or suppliers. The Trade Contractor declares that it has complied with all federal, state and local laws regarding business permits and licenses that may be required to provide the services and work required by this Agreement. The Trade Contractor further acknowledges that if this Project is a recipient of Federal financial assistance that it may be subject to requirements of Federal Acts and Executive Orders as mandated by Federal agencies having authority and jurisdiction to enforce and ensure compliance with such laws and regulations including, but not necessarily limited to, the Davis Bacon Act and other Federal Acts and Executive Orders.

13.10 EMPLOYMENT PRACTICES: It is the intent of the Iowa Department of Administrative Services to assure equal employment opportunity in all contract work as required by law. Vendors, are required to take affirmative action to ensure that applicants employed or seeking employment with them are treated equally as required by law. Vendors shall not illegally discriminate against any employee. During the course of the Project, the Vendor may be required to show compliance with the EEO and Affirmative Action requirements. Noncompliance with the provisions set forth at the time of contract award may result in termination or suspension of the Agreement in whole or in part. All vendors and service providers working under the terms of this Agreement are prohibited from engaging in discriminatory employment practices forbidden by Iowa law. Vendors shall complete and submit the Nondiscrimination Clause form for the Owner's approval.

13.11 RECIPROCAL BIDDER PREFERENCE In accordance with Iowa Code Section 73A.21, as amended in 2011 by HF 648, if the Trade Contractor is not a resident bidder of Iowa, as defined by law, then the Trade Contractor must specifically identify in writing with its bid any and all preferences or preferential treatment (including preferences related to labor) enforced by the state or foreign country in which the Trade Contractor is a resident. If the low bid Trade Contractor is not a resident bidder of Iowa and the Trade Contractor's foreign State of residence enforces such a preference then the Owner shall reciprocally enforce the preference in favor of a resident bidder of Iowa. Failure on the part of the Trade Contractor to completely and accurately abide by this legal requirement may, among other things, result in civil penalties and void this Agreement. The Trade Contractor should contact its attorney regarding this legal requirement if the Trade

Contractor has questions regarding its meaning or application.

13.12 LABOR RELATIONS The Trade Contractor shall comply with all Iowa and Federal labor laws. In accordance with Executive Order Number 69, issued by the Governor of Iowa on or about January 14, 2011, no project labor agreement (also known as a PLA), or similar, will be used on this Project. Iowa is a right to work state. No consultant, contractor, or employee shall be obligated to contract with or join any labor organization as a condition of performing work on this Project.

ARTICLE 14 TRADE CONTRACT DOCUMENTS

14.1 The Trade Contract Documents in existence at the time of execution of this Agreement are as follows:

RFBXXXXXXXXX Bid Package X

14.2 INTERPRETATION OF TRADE CONTRACT DOCUMENTS

14.2.1 The drawings and specifications are complementary. If Trade Contract Work is shown only on one but not on the other, the Trade Contractor shall perform the Trade Contract Work as though fully described on both consistent with the Trade Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

14.2.2 In case of conflicts between the drawings and specifications, the specifications shall govern. In any case of omissions or errors in figures, drawings or specifications, the Trade Contractor shall immediately submit the matter to the Owner for clarification. The Owner's clarifications are final and binding on all Parties, subject to an equitable adjustment in Trade Contract Time or Price pursuant to ARTICLE 6 and ARTICLE 7 or dispute resolution in accordance with ARTICLE 12.

14.2.3 Where figures are given, they shall be preferred to scaled dimensions.

14.2.4 Any terms that have well-known technical or trade meanings, unless otherwise specifically defined in this Agreement, shall be interpreted in accordance with their well-known meanings. This Agreement entered into as of the date entered in ARTICLE 1.

14.2.5 PRECEDENCE In case of any inconsistency, conflict or ambiguity among the Trade Contract Documents, the documents shall govern in the following order: (a) Trade Contract Change Orders and written amendments to this Agreement; (b) this Agreement; (c) subject to subsection 14.2.2 the drawings, specifications and addenda issued prior to the execution of this Agreement; (d) approved submittals; (e) information furnished by the Owner pursuant to subsection 4.1.3; (f) other documents listed in this Agreement. Among all the Trade Contract Documents, the term or provision that is most specific or includes the latest date shall control. Information identified in one Trade Contract Document and not identified in another shall not be considered to be a conflict or inconsistency.

This Agreement entered into as of the date entered in ARTICLE 1.

OWNER State of Iowa, Department of Administrative Services

Trade Contractor: *Contractor Name*

By: _____

(Authorized Representative)

Name:

Title:

Date:

Owner: State of Iowa - DAS

By: _____

(Authorized Representative)

Name:

Title:

Date:

END OF DOCUMENT.

DRAFT



SECTION 00 6000

PERFORMANCE AND PAYMENT BOND

PART 1 - GENERAL

1.01 PERFORMANCE AND PAYMENT BOND

- A. Performance and payment bonds to be used on this project, ConsensusDocs 260 and 261 are attached for reference following this page. ConsensusDocs performance and payment bonds are not required (other standard forms are acceptable to the State of Iowa).

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**



CONSensusDOCS 260 PERFORMANCE BOND

This document was developed through a collaborative effort of organizations representing a wide cross-section of the design and construction industry. The organizations endorsing this document believe it represents a fair allocation of risk and responsibilities for all project participants.

Endorsing organizations recognize that this document must be reviewed and adapted to meet specific needs and applicable laws. This document has important legal and insurance consequences. You are encouraged to consult legal, insurance and surety advisors before completing or modifying this document. The software includes a notes section indicating where information is to be inserted to complete this document. Further information and endorsing organizations' perspectives are available at www.consensusdocs.org/guidebook.

For Use with ConsensusDOCS 200, Standard Form of Agreement and General Conditions Between Owner and Constructor (Where the Contract Price is a Lump Sum) and ConsensusDOCS 500, Standard Agreement and General Conditions Between Owner and Construction Manager.

The Owner, _____, (the "Owner") and the Constructor, _____, (the "Constructor") have entered into a Contract (the "Contract") dated _____ for _____ (the "Project"). The Contract is incorporated by reference into this Performance Bond (the "Bond").

By virtue of this Bond, the Constructor as Principal and _____ as Surety ("Surety"), are bound to the Owner as Obligee in the maximum amount of _____ Dollars (\$ _____) (the "Bond Sum"). The Constructor and Surety hereby bind themselves, their heirs, executors,

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.

ConsensusDOCS 260 • PERFORMANCE BOND Copyright © 2007, Revised 2009 and 2011, ConsensusDOCS LLC. AN INDIVIDUAL PURCHASE OF THIS DOCUMENT PERMITS THE USER TO PRINT ONE CONTRACT FOR ONE PROJECT ONLY. YOU MAY ONLY MAKE COPIES OF A COMPLETED DOCUMENT FOR DISTRIBUTION TO PARTIES IN DIRECT CONNECTION WITH THE SPECIFIC CONSTRUCTION PROJECT. ANY OTHER USES, INCLUDING COPYING THE DOCUMENT, ARE STRICTLY PROHIBITED.

administrators, successors and assigns, jointly and severally, as provided herein.

1. GENERAL CONDITIONS It is the condition of this Bond that if the Constructor performs its Contract obligations (the "Work"), the Surety's obligations under this Bond are null and void, Otherwise the Surety's obligations shall remain in full force and effect. The Surety waives any requirement to be notified of alterations or extensions of time made by the Owner in the Contract. The Owner may not invoke the provisions of this Bond unless the Owner has performed its obligations pursuant to the Contract. Upon making demand on this Bond, the Owner shall make the Contract Balance (the total amount payable by the Owner to the Constructor pursuant to the Contract less amounts properly paid by the Owner to the Constructor) available to the Surety for completion of the Work.

2. SURETY OBLIGATIONS If the Constructor is in default pursuant to the Contract and the Owner has declared the Constructor in default, the Surety promptly may remedy the default or shall

- a. Complete the Work, with the consent of the Owner, through the Constructor or otherwise,
- b. Arrange for the completion of the Work by a Constructor acceptable to the Owner and secured by performance and payment bonds equivalent to those for the Contract issued by a qualified surety. The Surety shall make available as the Work progresses sufficient funds to pay the cost of completion of the Work less the Contract Balance up to the Bond Sum, or
- c. Waive its right to complete the Work and reimburse the Owner the amount of its reasonable costs, not to exceed the Bond Sum, to complete the Work less the Contract Balance.

3. DISPUTE RESOLUTION All disputes pursuant to this Bond shall be instituted in any court of competent jurisdiction in the location in which the Project is located and shall be commenced within two years after default of the Constructor or Substantial Completion of the Work, whichever occurs first. If this provision is prohibited by law, the minimum period of limitation available to sureties in the jurisdiction shall be applicable.

This Bond is entered into as of _____.

SURETY _____ (seal)

By:

Print Name: _____

Print Title: _____

(Attach Power of Attorney)

Witness:

CONSTRUCTOR _____ (seal)

By:

Print Name: _____

Print Title: _____

Witness:

(Additional signatures, if any, appear on attached page)

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.

ConsensusDOCS 260 • PERFORMANCE BOND Copyright © 2007, Revised 2009 and 2011, ConsensusDOCS LLC. AN INDIVIDUAL PURCHASE OF THIS DOCUMENT PERMITS THE USER TO PRINT ONE CONTRACT FOR ONE PROJECT ONLY. YOU MAY ONLY MAKE COPIES OF A COMPLETED DOCUMENT FOR DISTRIBUTION TO PARTIES IN DIRECT CONNECTION WITH THE SPECIFIC CONSTRUCTION PROJECT. ANY OTHER USES, INCLUDING COPYING THE DOCUMENT, ARE STRICTLY PROHIBITED.



**CONSENSUSDOCS 261
PAYMENT BOND**

This document was developed through a collaborative effort of organizations representing a wide cross-section of the design and construction industry. The organizations endorsing this document believe it represents a fair allocation of risk and responsibilities for all project participants.

Endorsing organizations recognize that this document must be reviewed and adapted to meet specific needs and applicable laws. This document has important legal and insurance consequences. You are encouraged to consult legal, insurance and surety advisors before completing or modifying this document. The software includes a notes section indicating where information is to be inserted to complete this document. Further information and endorsing organizations' perspectives are available at www.consensusdocs.org/guidebook.

For Use with ConsensusDOCS 200, Standard Form of Agreement and General Conditions Between Owner and Constructor (Where the Contract Price is a Lump Sum) and ConsensusDOCS 500, Standard Agreement and General Conditions Between Owner and Construction Manager,

The Owner, _____, (the "Owner")
and the Constructor, _____,
(the "Constructor") have entered into a Contract (the "Contract") dated _____ for
_____ (the "Project"). The Contract is
incorporated by reference into this Payment Bond (the "Bond").

By virtue of this Bond, the Constructor as Principal and _____ as
Surety ("Surety"), are bound to the Owner as Oblige in the maximum amount of
_____ Dollars (\$ _____) (the
"Bond Sum"). The Constructor and Surety hereby bind themselves, their heirs, executors,

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.
ConsensusDOCS 261 • PAYMENT BOND Copyright © 2007, Revised 2009 and 2011, ConsensusDOCS LLC. AN INDIVIDUAL PURCHASE OF THIS DOCUMENT PERMITS THE USER TO PRINT ONE CONTRACT FOR ONE PROJECT ONLY. YOU MAY ONLY MAKE COPIES OF A COMPLETED DOCUMENT FOR DISTRIBUTION TO PARTIES IN DIRECT CONNECTION WITH THE SPECIFIC CONSTRUCTION PROJECT. ANY OTHER USES, INCLUDING COPYING THE DOCUMENT, ARE STRICTLY PROHIBITED.

administrators, successors and assigns, jointly and severally, as provided herein.

1. GENERAL CONDITIONS It is the condition of this Bond that if the Constructor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the work required by the Contract, the Surety's obligations pursuant to this Bond are null and void. Otherwise the Surety's obligations shall remain in full force and effect. The Surety waives any requirement to be notified of alterations or extensions of time made by the Owner in the Contract.

2. SURETY OBLIGATION Every Claimant who has not been paid in full before the expiration of a period of ninety (90) Days after such Claimant provided or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, may have a right of action on this Bond. The Surety's obligation to the Claimant(s) shall not exceed the Bond Sum.

3. LIMITATION OF ACTION No suit or action shall be commenced on this Bond by any Claimant
a. Unless Claimant, other than one having a direct Contract with the Constructor, shall have given written notice to the Constructor, the Owner and the Surety within ninety (90) Days after the Claimant provided or performed the last of the work or labor, or furnished the last of the materials for which the claim is made, stating with substantial accuracy the amount claimed and the name of the Party to whom the materials were furnished, or for whom the work or labor was provided or performed. Such notice shall be served by any means which provides written third party verification of delivery to the Constructor at any place it maintains an office or conducts business, or served in any manner in which legal process may be served in the state in which the Project is located.
b. After the expiration of one (1) year from the date on which the Claimant last performed labor or furnished materials or equipment on the Project. If this provision is prohibited by law, the minimum period of limitation available to sureties in the jurisdiction shall be applicable.
c. Other than in any court of competent jurisdiction in the location in which the Project is located.

4. CLAIMANT A Claimant is defined as an individual or entity having a direct contract with the Constructor or having a contract with a subcontractor having a direct contract with the Constructor to furnish labor, materials or equipment for use in the performance of the Contract.

This Bond is entered into as of _____.

SURETY _____ (seal)

By:

Print Name: _____

Print Title: _____

(Attach Power of Attorney)

Witness:

CONSTRUCTOR _____ (seal)

By:

Print Name: _____

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.
ConsensusDOCS 261 • PAYMENT BOND Copyright © 2007, Revised 2009 and 2011, ConsensusDOCS LLC, AN INDIVIDUAL PURCHASE OF THIS DOCUMENT PERMITS THE USER TO PRINT ONE CONTRACT FOR ONE PROJECT ONLY. YOU MAY ONLY MAKE COPIES OF A COMPLETED DOCUMENT FOR DISTRIBUTION TO PARTIES IN DIRECT CONNECTION WITH THE SPECIFIC CONSTRUCTION PROJECT. ANY OTHER USES, INCLUDING COPYING THE DOCUMENT, ARE STRICTLY PROHIBITED.

Print Title: _____

Witness:

(Additional signatures, if any, appear on attached page)

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.

ConsensusDOCS 261 • PAYMENT BOND Copyright © 2007, Revised 2009 and 2011, ConsensusDOCS LLC. AN INDIVIDUAL PURCHASE OF THIS DOCUMENT PERMITS THE USER TO PRINT ONE CONTRACT FOR ONE PROJECT ONLY. YOU MAY ONLY MAKE COPIES OF A COMPLETED DOCUMENT FOR DISTRIBUTION TO PARTIES IN DIRECT CONNECTION WITH THE SPECIFIC CONSTRUCTION PROJECT. ANY OTHER USES, INCLUDING COPYING THE DOCUMENT, ARE STRICTLY PROHIBITED.

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 01 1200

CONTRACT SUMMARY

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Project Information
- B. Project Summary
- C. Bid Scope Summary
- D. Work Hour Restrictions
- E. Access to Site
- F. Coordination with Occupants
- G. Rules for Construction Workers
- H. Bid Package Instructions

1.02 PROJECT INFORMATION

- A. Facility Name/Location: Woodward Resource Center, 1251 334th Street, Woodward, Iowa 50276
- B. DAS Project #: 9279.40
- C. Owner: State of Iowa, Department of Administrative Services, Hoover State Office Building, Level 3, 1305 East Walnut Street, Des Moines, IA 50319
- D. Owner's Representative: Jennifer Kleene, Iowa Department of Administrative Services, 109 SE 13th Street, Des Moines, IA 50319
- E. Construction Manager: Darren Milliken, Story Construction, 2810 Wakefield Circle, Ames, Iowa 50010

1.03 PROJECT SUMMARY

- A. The project includes replacing the steam system with hot water in the Birches, Powerhouse, and Dispatch Garage buildings, installing new chilled water systems in the Medical Center and Elmcrest buildings and replacing the fire alarm system in the Birches and Powerhouse buildings.
- B. Target date to provide substantial completion is May 29, 2026.

1.04 BID SCOPE SUMMARY

- A. Scope Applicable to All Bid Packages:
 - 1. The Contractor's Work includes all labor, supervision, materials, equipment, services, supplies, tools, facilities, transportation, hoisting, storage, receiving, licenses, inspections, certifications, overhead, profit, or other items required or reasonably inferable to properly and timely perform and complete all work and services to be performed by the Contractor pursuant to this Agreement. Unless specifically stated otherwise, incidental work required to accomplish the work of this Bid Package shall be included the bid. This would include, but not be limited to, temporary facilities, protection of the work, security of equipment, materials, and work in progress, etc. Contractor's Work shall be performed in accordance with the Drawings, Specification Divisions 00 and 01, and Specification sections applicable to each Contractor's scope.
 - 2. Contractor is responsible for all labor and equipment to unload, account for all material delivered, stock, and delivery for this scope of work. Storage and delivery of materials and equipment at the Site shall be permitted only to the extent approved in advance by the Construction Manager, and if anything so stored obstructs the progress of any portion of the work, it shall be promptly removed or relocated by the Contractor without reimbursement.

3. On site supervision by Prime Contractor at all times work by that contractor or their subcontractors/suppliers is taking place.
4. Provide all temporary facilities required for this scope of work including trailer, trailer power, telephone, secured storage, temporary power for work, temporary and task lighting for work, etc. as determined necessary by Contractor. Coordinate location of trailers, material storage and utility lines with Construction Manager. Limited space is available, and permission to bring any such facility or excess materials on to the site shall be approved by the Construction Manager.
5. Contractor shall provide all equipment and tools for Contractor's own cleanup. Clean up shall be done at end of every shift or more frequently if required for the Contractor to perform their work, for other Contractors to perform their work, as required by the Owner's operations, and at the discretion of the Construction Manager.
6. All turf, landscaping, and subgrade disturbances caused by equipment traffic or other activities related to the Contractor's scope shall be repaired or restored to proper conditions by the Contractor.
7. Protect adjacent existing building elements from damage from Scope of work. Repair existing building elements damaged during Contractor's Scope of work.
8. Contractors will need to plan on providing their own internet access if needed.
9. Each person working onsite (excluding delivery drivers) shall attend a 30-minute Woodward Resource Center and Story Construction Co. safety orientation prior to site entry. Upon successful completion of the orientation, each person will receive a hard-hat sticker to identify successful completion. Each person must successfully complete the orientation prior to being allowed onsite to perform work. A 24-hour notice to the Construction Manager of the need for an orientation is required.
10. Each Contractor shall designate a representative to attend one 60-minute pre-construction meeting.
11. Each Contractor and their Subcontractors shall designate an onsite representative to attend a daily 15-minute "End of Shift Meeting" on days which work is performed by them.
12. Each Contractor and their Subcontractors shall designate an onsite representative to attend a weekly 60-minute production and planning meeting the weeks which work is performed by them, plus the two (2) weeks ahead of each Contractor/Subcontractor starting work on site.
13. Each Contractor shall designate a representative to attend a 60-minute bi-weekly Owner/Designer/Construction Manager Meeting.
14. Prior to the weekly production and planning meeting, each Contractor and their Subcontractors shall populate the project planning and communication board with daily activities. This shall include activity description, quantity of work planned for completion daily, crew size for each activity, and location of each activity. The Construction Manager will assist with the population of the board.
15. Each Contractor shall have their Project Manager and onsite representative attend a Story Construction Co. Planning and Production system orientation. Plan for this meeting to last 2-hours

1.05 WORK HOUR RESTRICTIONS

- A. Typical work hours are 7:00 am to 5:00 pm Monday-Friday.

1.06 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.

- B. Provide access to and from site as required by law and Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permission of Owner and permit if required.
- C. Facility will be occupied at all times during duration of work. Contractor personnel shall conduct themselves in an agreeable manner at all times. Failure to do so may result in removal from the work site.

1.07 OWNER OCCUPANCY

- A. Owner intends to occupy the Project throughout construction.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.08 RULES FOR CONSTRUCTION WORKERS

- A. The staff of the State of Iowa has a responsibility to protect the public by providing a secure environment. All work site rules must be followed to the letter, at all times.
- B. All construction workers must have a background check completed prior to entering the campus to perform work.
- C. Hot Work Permit Processes and Fire Watch, when necessary, will be adhered to for this project.
- D. All State properties are tobacco free. No smoking will be permitted or tolerated on campus unless in designated areas.
- E. You are permitted access only to the work site and no other area of the institution.
- F. No drugs, alcohol, or firearms are allowed on the work site.
- G. Do not leave money, drugs, alcohol, or firearms in your personal vehicle.
- H. Company and personal vehicles are to be parked and locked in designated or authorized area of the work.
- I. Secure all tools at the end of the day.
- J. Maintain control of all tools, supplies, and debris at all times during the work.
- K. Never leave keys in any vehicle. If a security officer finds keys in a vehicle, they are under orders to turn them in to a security supervisor.
- L. Do not give anything to residents or take anything from residents; if they offer, inform your supervisor.
- M. Secure all tools at the end of each day. Never leave tools unattended. All tools shall be checked in at the beginning of the day and checked out at the end of the day. If security officers find loose tools, they are under orders to turn them in to their supervisor.
- N. All delivery vehicles must go directly to the job site. Extra time should be anticipated for all deliveries. Provide 24-hour notice to the facility of deliveries.
- O. During an emergency, follow the instructions of the security staff.
- P. Ladders and scaffolding must be taken down when not in use and at the end of each shift. Fuel cans are always to be secured.
- Q. Fuel cans are always to be secured.
- R. Photography of the Woodward Resource Center residents or employees is prohibited.

S. BID PACKAGE INSTRUCTIONS –

- T. **Bid Package #01-1 – Decentralization Abatement**
 - 1. Specifications:
 - a. Division 00 – Procurement and Contracting Requirements
 - b. Division 01 – General Requirements
 - 1) Section 01 9000 Atlas Abatement Specifications dated 03/17/2025
 - a) Complete
 - c. Division 02 – Existing Conditions

U. **Bid Package #23-1** – Decentralization Mechanical: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. Specifications:
 - a. Division 00 – Procurement and Contracting Requirements
 - b. Division 01 – General Requirements
 - 1) Exclude Section 01 9000 Atlas Abatement Specifications dated 03/17/2025.
 - c. Division 02 – Existing Conditions
 - 1) Specification 02 41 00 Demolition. Complete all demo work associated with work corresponding to BP #23-1.
 - d. Division 03 – Concrete
 - 1) Complete.
 - e. Division 04 – Unit Masonry
 - 1) Complete.
 - f. Division 05 – Metals
 - 1) Complete.
 - g. Division 06 – Wood, Plastics, and Composites
 - 1) Complete.
 - h. Division 07 – Thermal and Moisture Protection
 - 1) 07 42 43 Metal Window Panels – Complete.
 - 2) Specification 07 81 00 Applied Fire Protection – for adjacent work completed by BP #23-1
 - 3) Specification 07 84 00 Firestopping – for adjacent work completed by BP #23-1
 - 4) Specification 07 90 00 Joint Sealants – for adjacent work completed by BP #23-1.
 - i. Division 08 – Openings
 - 1) Complete.
 - j. Division 09 – Finishes
 - 1) Complete.
 - k. Division 21 – Fire Suppression
 - 1) Complete.
 - l. Division 22 – Plumbing
 - 1) Complete.
 - m. Division 23 – HVAC
 - 1) Complete.
2. Includes drawings: 00-G000, 00-G001, 00-C001, 00-CD02, 00-CD03, 00-C102, 00-C103, 00-C202, 00-C203, 00-C501, 00-A000, 00-M000, 10-AD00, 10-MD01, 10-M100, 10-M500, 10-M600, 12-AD00, 12-MD1, 12-M100, 12-M500, 12-M600, 15-MD101, 15-M100, 15-M600, 16-AD01, 16-A100, 16-A101, 16-A102, 16-A110, 16-A111, 16-MD100, 16-MD101, 16-MD102, 16-M100, 16-M101, 16-M102, 16-M300, 16-M301, 16-M302, 16-M400, 16-M500, 16-M501, 16-M600, 18-MD100, 18-MD101, 18-M100, 18-M101, 18-M102, 18-M600.
3. Clarification: Contractor shall be lead-certified, and all work done on areas with lead-containing or lead-based paint must be done by a lead-certified crew member.
4. Clarification: Contractor will need to coordinate and follow requests by Systems Works who is the Commissioning Agent for this project.
5. Clarification: Contractor will be responsible for patching all holes created by construction from this Bid Package. All patches are to help the building maintain a 1-hour fire rating. It is recommended to have a site visit to help quantify this work.

V. **Bid Package #26-1** – Decentralization Electrical & Fire Alarm: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. Specifications:
 - a. Division 00 – Procurement and Contracting Requirements
 - b. Division 01 – General Requirements
 - 1) Exclude Section 01 9000 Atlas Abatement Specifications dated 03/17/2025.
 - c. Division 02 – Existing Conditions
 - 1) Specification 02 41 00 Demolition. Complete all demo work associated with work corresponding to BP #26-1.
 - d. Division 07 – Thermal and Moisture Protection
 - 1) Specification 07 81 00 Applied Fire Protection – Complete.
 - 2) Specification 07 84 00 Firestopping – for adjacent work completed by BP #26-1
 - 3) Specification 07 90 00 Joint Sealants – for adjacent work completed by BP #26-1.
 - e. Division 9 – Finishes
 - 1) As applies to work regarding patching work completed by BP #26-1.
 - f. Division 26 – Electrical
 - 1) Complete.
 - g. Division 27 – Communications
 - 1) Complete.
 - h. Division 28 – Electronic Safety and Security
 - 1) Complete.
2. Clarification: Contractor shall be lead-certified, and all work done on areas with lead-containing or lead-based paint must be done by a lead-certified crew member.
3. Clarification: Contractor will be responsible for patching all holes created by construction from this Bid Package. All patches are to help the building maintain a 1-hour fire rating. It is recommended to have a site visit to help quantify this work.
4. Includes drawings: 00-G000, 00-G001, 00-E000, 00-E010, 00-E011, 10-E100, 12-E100, 15-ED201, 15-E201, 15-E600, 16-ED100, 16-ED101, 16-ED102, 16-E100, 16-E101, 16-E102, 16-E400, 18-ED100, 18-ED101, 18-ED102, 18-E100, 18-E101, 18-E102, 18-E400.

W. **BP#26-1 Unit Price #01** – Smoke Detector: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. One unit to include: Cost for labor and material for device, 30' of conduit and 30' of fire alarm cable. Programming of device to also be included.
2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
3. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

X. **BP#26-1 Unit Price #02** – Heat Detector: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. One unit to include: Cost for labor and material for device, 30' of conduit and 30' of fire alarm cable. Programming of device to also be included.
2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
3. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

- Y. **BP#26-1 Unit Price #03** – Duct Smoke Detector: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
1. One unit to include: Cost for labor and material for device, 30' of conduit and 30' of fire alarm cable. Programming of device to also be included.
 2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
 3. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.
- Z. **BP#26-1 Unit Price #04** – Fire Alarm Relay: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
1. One unit to include: Cost for labor and material for device, 30' of conduit and 30' of fire alarm cable. Programming of device to also be included.
 2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
 3. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.
- AA. **BP#26-1 Unit Price #05** – Ceiling Mounted Speaker Strobe: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
1. One unit to include: Cost for labor and material for device, 30' of conduit and 30' of fire alarm cable. Programming of device to also be included.
 2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
 3. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.
- BB. **BP#26-1 Unit Price #06** – Ceiling Mounted Strobe: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
1. One unit to include: Cost for labor and material for device, 30' of conduit and 30' of fire alarm cable. Programming of device to also be included.
 2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
 3. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.
- CC. **Work Performed by Owner:** WRC Staff or Construction Manager will perform the following work items:
1. Relocate all moveable furniture, fixtures and equipment (FF&E), including window treatments; and personal materials from each sequenced work area prior to demolition and construction activities and after new construction is completed.
 2. Perform fire watch when necessary.
 3. Temporary granular surface for parking and laydown area.
 4. Temporary fencing for laydown area.
 5. All painting required for the project.
 6. Temporary window in-fills.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 01 2500

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Substitution Procedures
- B. Request for Substitution form

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Where the Bidding Documents stipulate a specific product be provided by naming one or more manufacturer and model, a substitute product will be considered when written request is received by the date and time identified in Section 00 1113 NOTICE TO BIDDERS. Substitution requests will be considered for all products, even if the specification does not include a statement such as “or equal,” “equal to,” “equivalent to,” or “basis of design,” unless noted otherwise.
- B. References in the Bidding Documents to brand or trade names are intended to illustrate the general characteristics of the item and not to limit competition unless noted otherwise.
- C. The written request shall be on the “Request for Substitution” form included in the Project Manual. If no such form is included, the request shall be provided on the letterhead of the company making the request.
- D. Substitution requests received after the specified date will be viewed in the context of a Change Order to the Contract, and consideration will only be given in the event a product becomes unavailable or not practical due to no fault of the Contractor, or the substitution is substantially to the Owner’s advantage (equal product for less cost or higher quality product at no change in Contract Sum).
- E. Document each substitution request with complete data substantiating compliance of the proposed substitution with the Bidding Documents. Each request shall identify the specified product for which the substitution is requested, and shall clearly describe the product for which approval is requested. The burden shall be on the requester to demonstrate the proposed substitute product’s suitability for use in the Work and its equivalency or superiority in function, appearance, quality, and performance with the product named in the Bidding Documents.
- F. A description of any changes to the Bidding Documents that the proposed substitution will require shall be included with the request. The requester shall affirm that dimensions shown on the Drawings will not be affected by the substitute product, and that it will have no adverse effect on other trades, the construction schedule, or specified warranty requirements. The request for use of a substitute product shall be signed by an authorized representative of the firm submitting the request, who shall state that the firm will pay for any changes to the building design, including Design Professional’s design, detailing, and construction cost caused by the requested substitution if the substitution is approved for use in the Work.
- G. All such substitute products approved for use in the Work during the established period of time before receipt of Bids will be identified in a subsequent Addendum to the Bidding Documents.

3.02 REQUEST FOR SUBSTITUTION FORM

- A. A Request for Substitution Form is attached following this page.
- B. Substitution requests shall be emailed to the Issuing Officer at the email address provided in Instructions to Bidders Section 1.04.

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SUBSTITUTION REQUEST FORM

Project: _____ Substitution Request Number: _____

From: _____
To: _____ Date: _____

A/E Project Number: _____
Re: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone: _____
Trade Name: _____ Model No.: _____

History: New product 2-5 years old 5-10 yrs old More than 10 years old

Differences between proposed substitution and specified product: _____

Point-by-point comparative data prepared by contractor and attached - REQUIRED BY A/E

Reason for not providing specified item: _____

Similar Installation:
Project: _____ Architect: _____
Address: _____ Owner: _____
_____ Date Installed: _____

Proposed substitution affects other parts of Work: No Yes; explain _____

Supporting Data Attached: Drawings Product Data Samples Tests Reports _____

SUBSTITUTION REQUEST FORM

(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

Telephone: _____

Attachments: _____

A/E's REVIEW AND ACTION

- Substitution approved - Make submittals in accordance with Specification Section 01 3300.
- Substitution approved as noted - Make submittals in accordance with Specification Section 01 3300.
- Substitution rejected - Use specified materials.
- Substitution Request received too late - Use specified materials.

Signed by: _____

Date: _____

Additional Comments: Contractor Subcontractor Supplier Manufacturer A/E _____

SECTION 01 2600

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Change procedures

1.02 CHANGE PROCEDURES

- A. The Design Professional will advise of minor changes in the work not involving an adjustment to Contract Sum/Price or contract time as authorized.
- B. The Construction Manager may issue a Proposal Request that includes a detailed description of a proposed change with supplementary or revised drawings and specifications and a change in contract time for executing the change as provided by the Design Professional. The Trade Contractor will prepare and submit an estimate within 7 calendar days. Estimates shall be provided for the project at no cost, regardless of acceptance or rejection of proposal.
- C. The Trade Contractor may propose changes by submitting a Request for Information to the Construction Manager, describing the proposed change and its full effect on the work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and contract time with full documentation and a statement describing the effect on work by separate or other contractors. Document any requested substitutions in accordance with the specifications. Construction Manager will forward the Request for Information on to the Design Professional for their official response.
- D. Stipulated Sum/Price Change Order: Based on executed Change Order and contractor's fixed price quotation.
- E. Unit Price Change Order: The change order will be executed on a fixed unit price basis for pre-determined unit prices and quantities. Changes in contract price or contract time will be computed as specified for time and material change orders.
- F. Time and Material Change Order: The change order will be executed on a not to exceed basis. Design professional and Construction Manager will determine the not to exceed estimated cost based on contractor's proposal for hourly rates and material costs. Maintain detailed records of work done on time and material basis. Time and Material tickets must be submitted daily to the Construction Manager for verification. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the work. Submit itemized account and supporting data after completion of change. A final deductive change order will be issued to reconcile final cost to the initial change order.
- G. Change Order Forms: CONSENSUSDOC Forms provided by Owner.
- H. Execution of Change Orders: The Construction Manager will issue change orders for signature of parties as provided in the Conditions of the Contract.
- I. With respect to pricing change orders, the percentage mark-up for overhead and profit is subject to the following limits:
 - 1. Fifteen (15) percent maximum for work directly performed by employees of the Constructor, Subcontractor or Sub-subcontractor.
 - 2. Five (5) percent maximum for work performed or passed through by a Subcontractor and passed through to the Owner by the Constructor.
 - 3. Five (5) percent maximum Subcontractor's mark-up for Work performed by a Sub-Subcontractor and passed through to the Owner by the Subcontractor and Constructor.
 - 4. The maximum allowable mark-up shall be twenty-five (25) percent passed through to the Owner by the Constructor under any circumstances. Overhead and profit shall be shown separately for the Constructor and each Subcontractor of any tier performing the Change Order Work.
- J. Contractor and subcontractor agree to provide and require all suppliers to provide, a detailed breakdown of labor, labor burden, materials, installation, rental, and fuel costs.

K. Please refer to Article 8 of **CONSENSUSDOCS 802- STANDARD FORM OR AGREEMENT BETWEEN OWNER AND TRADE CONTRACTOR** for additional Change Procedures.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 01 2900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Schedule of values
- B. Application for payment

1.02 SCHEDULE OF VALUES

- A. Coordination: Trade Contractor will coordinate preparation of the Schedule of Values with preparation of the Construction Manager's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including Application for Payment forms with Continuation Sheets, Submittals Schedule, and Construction Manager's Construction Schedule.
 - 2. Submit original Schedule of Values in Procore within 14 days after date of Owner-Trade Contractor Agreement. Schedule of Values must be approved by Owner prior to submission for first application for payment.
- B. Format: Utilize the Table of Contents of this project manual. Identify each line item with number and title of the major specification section. Each major specification section should be further itemized by materials cost, labor cost and subcontractor cost for each building separately for the base bid and all accepted alternates. Identify site mobilization, bonds and insurance.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name and address of Owner, Trade Contractor, Construction Manager and Design Team.
 - c. DAS Project Number.
 - d. Date of Submittal.
 - 2. Revise the Schedule of Values to list approved Change Orders with each Application for Payment.

1.03 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications for payments as certified by the Design Professional and paid for by Owner.
 - 1. 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. Progress payments shall be submitted to the Construction Manager. Any request for payment for work completed prior to June 30th of any year needs to be submitted by July 15th of the same calendar year.
- C. Payment Application Forms: Use AIA form G702 and G703 as the form for the Application for Payment or an equivalent approved by the owner.
- D. Include lien waiver forms required by the owner when applicable.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of the Trade Contractor. Construction Manager will return incomplete applications without action.
 - 1. Include amounts of Change Orders issued before last day of construction period covered by application.
- F. Waivers of Mechanic's Lien: If requested by Owner with each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment when applicable.

1. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 2. 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 submittal of first Application for Payment include the following:
1. Schedule of Values
 2. Certificates of insurance and insurance policies.
 3. Lists of vendors and any subcontractors.
- H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for the portion of the Work claimed as substantially complete.
1. Include documentation supporting the 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."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Letter of Notification to all sub-contractors and suppliers of application for release of retainage.
 8. Evidence that claims have been settled.
- J. Payments will be made to the extent of the value of the work performed in the previous month less a retainage amount of 5% of the value of the work performed. Upon substantial completion for the entire work, a sum sufficient to decrease the total retained to 5% of the contract sum, plus such other retainage as the engineer shall determine for all incomplete work and unsettled claims will be authorized.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination
- B. Pre-construction meeting
- C. Progress meetings
- D. Coordination Meetings
- E. Requests for Interpretation (RFIs)
- F. Background Checks
- G. Utility Locates/Ground Penetrations

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the project manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Administrative procedures: The Trade Contractor will coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Trade Contractor's Construction Schedule.
 - 2. Provide updated information for Construction Manager's Construction Schedule.
 - 3. Preparation of Schedule of Values.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Pre-installation conferences.
 - 7. Project closeout activities
- C. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work, which are indicated diagrammatically on drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated conceal pipes and wiring within the construction. Coordinate locations of piping with finish elements.
- F. Coordinate completion and cleanup of work of separate sections in preparation for Substantial Completion.
- G. After owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of owner's activities.
- H. During construction coordinate use of site and facilities through Construction Manager.
- I. Comply with Construction Manager and Owner's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

- J. Make the following types of submittal to Architect through the Construction Manager via Procore:
1. Request for Information/Interpretation.
 2. Request for substitution.
 3. Shop drawings, product data, and samples.
 4. Test and inspection reports.
 5. Design data.
 6. Manufacturer's instructions and field reports.
 7. Applications for payment and change order requests.
 8. Progress schedules.
 9. Coordination drawings.
 10. Correction punch list and final correction punch list for substantial completion
 11. Closeout submittals

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 PRE-CONSTRUCTION MEETING

- A. The Construction Manager and Owner will schedule a meeting after Notice of Award.
- B. Required: Design Professional, Owner, Construction Manager, Trade Contractor and any Sub Contractors.
- C. Agenda:
 1. Execution of Owner-Contractor Agreement.
 2. Submission of executed bonds and insurance certificates.
 3. Distribution of Contract Documents.
 4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 5. Designation of personnel representing the parties in Contract.
 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, change orders, RFIs and contract closeout procedures
 7. Tentative construction schedule.
 8. Critical work sequencing and long-lead items.
 9. Procedures for testing and inspecting.
 10. Preparation of Record Documents.
 11. Safety Procedures.
 12. Owner's requirements.
 13. Security and housekeeping procedures.
 14. Background Checks.
 15. Responsibility for temporary facilities and controls.
 16. Construction waste management.
 17. Logistics (use of premise, parking, work restrictions, maintain egress, etc.)
- D. The Construction Manager is to record minutes and distribute copies within two days after meeting to participants, with one copy to owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. The Construction Manager shall schedule and administer meetings throughout progress of the work at weekly intervals.
- B. The Construction Manager is to make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings, record minutes and distribute copies within two days to those affected by decisions made.
- C. Attendees may include: Project superintendent, major subcontractors and suppliers, Owner, Construction Manager, Architect/Engineer, as appropriate to agenda topics for each meeting.

All participants at the conference call shall be familiar with the Project and authorized to conclude matters relating to the Work.

D. Agenda:

1. Review minutes of previous meetings.
2. Review the Construction Manager's Construction Schedule.
3. Field observations, problems, and decisions.
4. Identification of problems that impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of RFI's.
7. Review of off-site fabrication and delivery schedules.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to work.
14. Access, temporary facilities and controls, housekeeping and progress cleaning.
15. Safety.
16. Status of proposal requests, pending changes, official Change Orders.

E. Minutes:

1. Following the meeting, the meeting minutes will be published in Procore by the Construction Manager for all parties.

3.03 COORDINATION MEETINGS

- A. Coordination meetings will be held at the discretion of the construction manager.

3.04 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, prepare and submit an RFI in Procore.
1. RFIs shall originate with Trade Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in the Work.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Specification Section number and title and related paragraphs, as appropriate.
 2. Drawing number and detail references, as appropriate.
 3. Field dimensions and conditions, as appropriate.
 4. Trade Contractor's suggested solution(s). If Trade Contractor's solution(s) impact the Contract Time or the Contract Sum, Trade Contractor shall state impact in the RFI.
 5. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
- C. Design Professional's Action: Design Professional will review each RFI, determine action required, and return it. Allow seven (7) working days for Design Professional's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day. The following RFIs will be returned without action:
1. Requests for approval of submittals.
 2. Requests for approval of substitutions.
 3. Requests for coordination information already indicated in the Contract Documents.
 4. Requests for adjustments in the Contract Time or the Contract Sum.
 5. Requests for interpretation of Design Professional's actions on submittals.
 6. Incomplete RFIs or RFIs with numerous errors.
 7. Design Professional's action may include a request for additional information, in which case Design Professional's time for response will start again.

- D. Design Professional's action on RFIs that may result in a change to the Contract Time or the Contract Sum/Price.
 - 1. If Trade Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Construction Manager in writing within ten (10) days of receipt of the RFI response.
- E. On receipt of Design Professional's response in Procore, review the response and notify Design Professional within seven (7) days if Trade Contractor disagrees with response.

3.05 BACKGROUND CHECKS

- A. Background checks must be performed on all on site employees, including sub-contractors.
- B. The Contractor hereby explicitly authorized the Iowa DAS to conduct criminal history and/or other background investigation(s) of the Contractor, its officers, supervisory personnel, employees, and other staff retained by the Contractor or their sub-contractors for the performance of the contract.
- C. A state of Iowa record check request form will be provided at the pre-construction meeting. Information required may include:
 - 1. Last Name
 - 2. First Name
 - 3. Middle Name
 - 4. Date of Birth
 - 5. State Driver's License or State ID #
 - 6. Social Security #

3.06 UTILITY LOCATES/GROUND PENETRATIONS

- A. Call Iowa One Call at 800-292-8989 to request a locate
 - 1. Requests must be least five (5) working days prior to ground penetration.
- B. Private utility locates will be provided by facility. Contractor will not pay for locates on PRIVATE lines.

END OF SECTION

SECTION 01 3100.01

WEB BASED CONSTRUCTION MANAGEMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Owner and Contractor shall utilize **Procore Technologies, Inc. Procore** system for electronic submittal of all data and documents (unless specified otherwise by the owner's representative) throughout the duration of the Contract. **Procore** is a web-based electronic media site that is hosted by **Procore Technologies, Inc.**, utilizing their **Procore** web solution. **Procore** will be made available to all contractors' project personnel, subcontractor personnel, suppliers, consultants and the Designer of Record. The joint use of this system is to facilitate; electronic exchange of information, automation of key processes, and overall management of the contract. **Procore** shall be the primary means of project information submission and management. When required by the Owners representative, paper documents will also be provided. In the event of discrepancy between the electronic version and paper documents, the paper documents will govern. **Procore** is a registered trademark of **Procore Technologies, Inc.**

1.02 USER ACCESS LIMITATIONS

- A. The Owner's Representative/Construction Manager will control the Contractor's access to **Procore** by allowing access and assigning user profiles to accepted Contractor personnel. User profiles will define levels of access into the system, determine assigned function-based authorizations (determines what can be seen) and user privileges (determines what they can do). Sub-contractors and suppliers will be given access to **Procore** through the Contractor. Entry of information exchanged and transferred between the Contractor and its sub-contractors and suppliers on **Procore** shall be the responsibility of the Contractor.
1. Joint Ownership of Data: Data entered in a collaborative mode (entered with the intent to share as determined by permissions and workflows within the **Procore** system) by the Owner's Representative and the Contractor will be jointly owned.

1.03 AUTOMATED SYSTEM NOTIFICATION AND AUDIT LOG TRACKING

- A. Review comments made (or lack thereof) by the Owner on Contractor submitted documentation shall not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for managing, tracking, and documenting the Work to comply with the requirements of the Contract Documents. Owner's acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the Contractor's submitted information.

1.04 SUBMITTALS

- A. See Section 01 3300 SUBMITTAL PROCEDURES:
B. Preconstruction Submittals
1. List of Contractor's key **Procore** personnel. Include descriptions of key personnel's roles and responsibilities for this project. Contractor should also identify their organization's administrator on the list.

1.05 COMPUTER REQUIREMENTS

- A. The Contractor shall use computer hardware and software that meets the requirements of the **Procore** system as recommended by **Procore Technologies, Inc.** to access and utilize

Procure. As recommendations are modified by **Procure**, the Contractor will upgrade their system(s) to meet the recommendations or better. Upgrading of the Contractor's computer systems will not be justification for a cost or time modification to the Contract. The contractor will ensure that connectivity to the **Procure** system (whether at the home office or job site) is accomplished through DSL, cable, T-1 or wireless communications systems. The minimum bandwidth requirement for using the system is 128kb/s. It is recommended a faster connection be used when uploading pictures and files into the system. **Procure** supports the current and prior two major versions of Chrome, Firefox, Internet Explorer, and Safari.

- B. The Contractor shall be responsible for the validity of their information placed in **Procure** and for the abilities of their personnel. Accepted users shall be knowledgeable in the use of computers, including Internet Browsers, email programs, cad drawing applications, and Adobe Portable Document Format (PDF) document distribution program. The Contractor shall utilize the existing forms in **Procure** to the maximum extent possible. If a form does not exist in **Procure** the Contractor must include a form of their own or provided by the Owner representative as an attachment to a submittal. Adobe PDF documents will be created through electronic conversion rather than optically scanned whenever possible. The Contractor is responsible for the training of their personnel in the use of **Procure** (outside what is provided by the owner) and the other programs indicated above as needed.
- C. User Access Administration: Provide a list of Contractor's key **Procure** personnel for the Owner's Representative acceptance. Contractor is responsible for adding and removing users from the system. The Owners Representative reserves the right to perform a security check on all potential users. The Contractor will be allowed to add additional personnel and sub-contractors to **Procure**.

1.06 CONNECTIVITY PROBLEMS

- A. **Procure** is a web-based environment and therefore subject to the inherent speed and connectivity problems of the Internet. The Contractor is responsible for its own connectivity to the Internet. **Procure** response time is dependent on the Contractor's equipment, including processor speed, Internet access speed, etc. and current traffic on the Internet. The Owner will not be liable for any delays associated from the usage of **Procure** including, but not limited to: slow response time, down time periods, connectivity problems, or loss of information. The contractor will ensure that connectivity to the **Procure** system (whether at the home office or job site) is accomplished through DSL, cable, T-1 or wireless communications systems. The minimum bandwidth requirement for using the system is 128kb/s. It is recommended a faster connection be used when uploading pictures and files into the system. Under no circumstances shall the usage of the **Procure** be grounds for a time extension or cost adjustment to the contract.

1.07 TRAINING

- A. The Construction Manager shall provide the necessary training to the Prime Contractor.

PART 2 - PRODUCTS

2.01 DESCRIPTION

- A. **Procure** project management application (no equal) Provided by Procure Technologies, Inc. www.Procure.com

PART 3 - EXECUTION

3.01 PROCORE UTILIZATION

- A. **Procore** shall be utilized in connection with submittal preparation and information management required by Sections:
1. PROJECT MANAGEMENT AND COORDINATION
 2. CONSTRUCTION PROGRESS DOCUMENTATION
 3. SUBMITTAL PROCEDURES
 4. QUALITY REQUIREMENTS
 5. Other Division One sections.
 6. Requirements of this section are in addition to requirements of all other sections of the specifications.
- B. Design Document Submittals
1. All design drawings and specifications shall be submitted as cad .dwg files or PDF attachments to the **Procore** submittal work flow process and form.
- C. Shop Drawings
1. Shop drawing and design data documents shall be submitted as cad .dwg files or PDF attachments to the **Procore** submittal work flow process and form. Examples of shop drawings include, but are not limited to:
 2. Standard manufacturer installation drawings.
 3. Drawings prepared to illustrate portions of the work designed or developed by the Contractor.
 4. Steel fabrication, piece, and erection drawings.
- D. Product Data
1. Product catalog data and manufacturer's instructions shall be submitted as
 2. PDF attachments to the **Procore** submittal work flow process and form. Examples of product data include, but are not limited to:
 3. Manufacturer's printed literature.
 4. Preprinted product specification data and installation instructions.
- E. Samples
1. Sample submittals shall be physically submitted as specified in Section 01 3300 SUBMITTAL PROCEDURES. Contractor shall enter submittal data information into **Procore** with a copy of the submittal form(s) attached to the sample. Examples of samples include, but are not limited to:
 2. Product finishes and color selection samples.
 3. Product finishes and color verification samples.
 4. Finish/color boards.
 5. Physical samples of materials.
- F. Administrative Submittals
1. All correspondence and pre-construction submittals shall be submitted using **Procore**. Examples of administrative submittals include, but are not limited to:
 2. Digging permits and notices for excavation.
 3. List of product substitutions
 4. List of contact personnel.
 5. Notices for roadway interruption, work outside regular hours, and utility cut overs.
 6. Requests for Information (RFI).
 7. Construction progress Schedules and associated reports and updates.
 - a. Each schedule submittal specified in CONSTRUCTION PROGRESS DOCUMENTATION shall be submitted as a native backed-up file (.PRX or .STX) of the scheduling program being used. The schedule will also be posted as a PDF

- file in the format.
8. Plans for safety, demolition, environmental protection, and similar activities.
 9. Quality Control Plan(s), Testing Plan and Log, Quality Control Reports, Production Reports, Quality Control Specialist Reports, Preparatory Phase Checklist, Initial Phase Checklist, Field Test reports, Summary reports, Rework Items List, etc.
 10. Meeting minutes for quality control meetings, progress meetings, pre-installation meetings, etc.
 11. Any general correspondence submitted.
- G. Compliance Submittals
1. Test reports, certificates, and manufacture field report submittals shall be submitted on **Procore** as PDF attachments. Examples of compliance submittals include, but are not limited to:
 - a. Field test reports.
 - b. Quality Control certifications.
 - c. Manufacturer's documentation and certifications for quality of products and materials provided.
- H. Record and Closeout Submittals
1. Operation and maintenance data and closeout submittals shall be submitted on **Procore** as PDF documents during the approval and review stage as specified, with actual set of documents submitted for final. Examples of record submittals include, but are not limited to:
 - a. Operation and Maintenance Manuals: Final documents shall be submitted as specified.
 - b. As-built Drawings: Final documents shall be submitted as specified.
 - c. Extra Materials, Spare Stock, etc.: Submittal forms shall indicate when actual materials are submitted.
- I. Financial Submittals
1. Schedule of Value, Pay Applications and Change Request Proposals shall be submitted on **Procore**. Supporting material for Pay Applications and Change Requests shall be submitted on **Procore** as PDF attachments. Examples of compliance submittals include, but are not limited to:
 - a. Contractors Schedule of Values
 - b. Contractors Monthly Progress Payment Requests
 - c. Contract Change proposals requested by the project owner

END OF SECTION

SECTION 01 3200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Construction Progress Schedule
- B. Construction Manager's Construction Schedule
- C. Submittal Schedule
- D. Daily Construction Reports
- E. Progress Photographs

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 CONSTRUCTION MANAGER'S MASTER CONSTRUCTION SCHEDULE

- A. Upon award of package, Contractor agrees to accept and meet or improve upon the schedule proposed in section **00 3113 PRELIMINARY SCHEDULE** with intermediate handoffs. Each package contractor will be required to participate in schedule coordination meetings with the Construction Manager.
- B. If the bid package contractor does not meet the handoff milestones in the master construction schedule, the bid package contractor shall take measures to increase work forces, increase work hours, initiate revisions to means and methods of construction, and/or other similar measures as required to make up lost time and complete the work in accordance with the construction schedule and remain consistent with project progress and overall construction schedule. Such measures shall be at no additional cost to the Owner. The Construction Manager shall have sole discretion on decisions to accelerate work.
- C. Updating the master construction schedule – Contractors are required to attend and participate in schedule coordination update meetings with the Construction Manager. This will be an opportunity for contractors to further define their scheduled scope of work in conjunction with other trades on site.
- D. Acceptance of revised master construction schedule – After an updated master construction schedule has been issued via Procore, Contractors will have 48 hours to dispute the new schedule. All contractors will be held to the last fully accepted master construction schedule.

3.02 CONSTRUCTION PROGRESS SCHEDULE

- A. Submit preliminary outline to the Construction Manager no later than 48 hours prior to the pre-construction meeting for coordination with Owner's requirements.
- B. Submit revised progress schedule with each application for payment.
- C. Schedules will be electronically submitted through Procore.
- D. Distribute copies of reviewed schedules to project site file, subcontractors, suppliers, and other concerned parties.
- E. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- F. Submit computer generated horizontal bar chart with separate line for each major portion of work or operation, identifying the first day of each week.
- G. Show complete sequence of construction activity, identifying work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.
- H. Indicate estimated percentage of completion for each item of work at each submission.
- I. Participate in joint review and evaluation of schedule with Construction Manager.

- J. Revisions to schedules:
 - 1. Indicate progress of each activity to date of submittal and projected completion date of each activity.
 - 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
 - 3. Prepare narrative report to define problem areas, anticipate delays, and impact on schedule. Report corrective action taken, or proposed, and its effect including effect of changes on schedules of separate contractors.

3.03 **SUBMITTAL SCHEDULE**

- A. Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrications, and delivery when establishing dates.
 - 1. Coordinate submittal schedule with list of subcontractors, the schedule of values, and construction schedule.
 - 2. Submit concurrently with first complete submittal of contractor's construction schedule.

3.04 **DAILY CONSTRUCTION REPORTS**

- A. Daily Construction Reports: Submitted at weekly intervals.
 - 1. Daily Construction Reports will be submitted to Construction Manager.
- B. Prepare a daily construction report recording the following information concerning events at project site:
 - 1. Count of personnel at Project site
 - 2. Equipment at Project site
 - 3. Material Deliveries
 - 4. High and low temperatures and general weather conditions, including presence of rain or snow
 - 5. Accidents
 - 6. Meetings and significant decisions
 - 7. Unusual events
 - 8. Stoppages, delays, shortages, and losses
 - 9. Meter readings and similar recordings
 - 10. Emergency procedures
 - 11. Orders and requests of authorities having jurisdiction
 - 12. Change orders received and implemented
 - 13. Services connected and disconnected
 - 14. Equipment or system tests and startups
 - 15. Partial completions and occupancies
 - 16. Substantial completions authorized

3.05 **PROGRESS PHOTOGRAPHS**

- A. Progress photographs will be electronically submitted through Procore.
- B. Preconstruction Photographs: Before starting construction, take photographs of project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Construction manager.
 - 1. Take additional photographs as required to record existing damage to site, structure, equipment, or finishes.
- C. Periodic Construction Photographs: Take photographs at regular intervals. Select vantage points to show status of construction and progress since last photographs were taken.

- D. Field Completion Construction Photographs: Take photographs after date of Substantial Completion for submission as project record documents. Construction manager will inform of desired vantage points.

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Submittals for Review
- B. Submittals for Information
- C. Submittal Procedures
- D. Samples

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product Data
 - 2. Shop Drawings
 - 3. Samples for Selection
 - 4. Samples for Verification
- B. Submit to Construction Manager to forward to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record document purposes.

3.02 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.
- B. Submit for Construction Manager, Architect, and Owner's knowledge. No action will be taken.

3.03 SUBMITTAL PROCEDURES

- A. Submittals will be electronically submitted through Procore. Contractor will be invited to join web based program after issue of Notice of Intent to award.
- B. Shop Drawing Procedures:
 - 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
 - 2. Do not reproduce the Contract Documents to create shop drawings.
 - 3. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
- C. Transmit each submittal with a copy of approved submittal form.

- D. Sequentially number the submittal form. Revise submittals with original number and a sequential numeric suffix.
- E. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- F. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
- G. Schedule submittals to expedite the project and coordinate submission of related items.
- H. For each submittal review, allow 15 days excluding delivery time to and from the contractor.
- I. Identify variations from the Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.

3.04 **SAMPLES**

- A. Submit to Construction Manager to forward to Architect/Engineer for review for limited purpose for checking conformance with information given and design concept expressed in the Contract Documents.
- B. Samples for selection as specified in product sections:
 - 1. Submit to Construction Manager to forward to Architect/Engineer for aesthetic, color, or finish selections.
 - 2. Submit samples of finishes from full range of manufacturer's standard colors, textures, and patterns to Construction Manager to forward to Architect/Engineer for selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full project information.
- E. Submit number of samples specified in individual specification sections.
- F. Photograph of submitted samples, along with transmittal sheet, shall be uploaded as a submittal in Procore.

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. References
- B. Quality assurance and control of installation
- C. Tolerances
- D. Defect Assessment
- E. Inspection and testing laboratory services
- F. Manufacturer's field services and reports

1.02 REFERENCES

- A. Conform to reference standard in effect at date of contract.
- B. When required by contract documents, obtain copies of standards.
- C. Should specified reference standards conflict with contract documents request clarification from engineer before proceeding.
- D. The contractual relationship of the parties to the contract shall not be altered from the contract documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.
- B. Comply fully with manufacturer's instructions, including each step in sequence.
- C. Should manufacturer's instructions conflict with contract documents, request clarification from the engineer prior to proceeding.
- D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stress, vibration, physical distortion, or disfiguration.

3.02 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with contract documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.03 DEFECT ASSESSMENT

- A. Replace work or portions of work not conforming to specified requirements.

- B. If, in the option of the Owner, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or recommend adjusted payment.

3.04 INSPECTION AND TESTING

- A. Owner shall include and pay for all required special inspections and testing required by IBC Section 1705, if applicable. This does not include inspections and testing required by other specification sections in this Project Manual. Copies of all testing and inspection reports shall be submitted to the Construction Manager and Design Professional by the testing and inspection agency.
- B. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Architect, Construction Manager, and contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of contract documents.
 - 4. Immediately notify the Construction Manager and contractor of observed irregularities or non-conformance of work or products.
 - 5. Perform additional testing and inspections required by the Owner
- C. Limits on Testing Agency/Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirement of contract documents.
 - 2. Agency may not approve or accept any portion of the work.
 - 3. Agency may not assume any duties of the contractor.
 - 4. Agency has no authority to stop the work.
- D. Contractor responsibilities:
 - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 - 2. Cooperate with laboratory personnel, and provide access to the work and to manufacturer's facilities.
 - 3. Provide incidental labor and facilities:
 - a. To provide access to work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of products to be tested/inspected.
 - c. To facilitate test/inspections.
 - d. To provide storage and curing of test samples.
 - 4. Notify Construction Manager and laboratory 24 hours prior to expected time for operations requiring testing/inspection.
- E. Re-testing required because of non-conformance to specified requirements shall be performed by the same testing agency on instruction by Architect/Construction Manager.
- F. Re-testing required because of non-conformance to specified requirements shall be paid for by the Contractor.

3.05 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start up of equipment, test, adjust and balance of equipment as applicable and to initiate instructions when necessary.
- B. Individuals are to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to the manufacturers' written instructions.
- C. Submit report in duplicate within 30 days of observation to Construction Manager for review.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities
- B. Temporary Sanitary Facilities
- C. Telephone Service
- D. Removal of Utilities, Facilities, and Controls
- E. Temporary Facilities
- F. Equipment
- G. Vehicular Access and Parking
- H. Traffic Regulation
- I. Barriers
- J. Enclosures and Fencing
- K. Waste Removal

1.02 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Electrical Power, consisting of connection to existing facilities.
 - 2. Water Supply, consisting of connection to existing facilities.
- B. The Contractor shall pay for installation, maintenance, and removal of temporary utilities. Temporary utilities shall not disrupt the Facility's need for continuous service.

1.03 TEMPORARY SANITARY FACILITIES

- A. Sanitary facilities shall be provided by the Construction Manager.
- B. Maintain daily in clean and sanitary condition.

1.04 TELEPHONE SERVICE

- A. Provide, maintain, and pay for telephone service to field or use a cellular telephone.

1.05 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 - PRODUCTS

2.01 TEMPORARY FACILITIES

- A. Field Offices: Coordinate with Construction Manager and Owner if applicable.

2.02 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated, with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.01 VEHICULAR ACCESS AND PARKING

- A. Use designated existing on-site roads for construction traffic.
- B. Parking is as directed by Owner.
- C. When site space is not adequate, provide additional off-site parking.
- D. Use of designated existing on-site streets and driveways used for construction traffic is permitted. Track vehicles not allowed on paved areas.
- E. Use of designated areas of existing parking facilities used by construction personnel as permitted.
- F. Do not allow heavy vehicles or construction equipment in parking areas.
- G. Provide and maintain access to fire hydrants, free of obstructions.
- H. Provide means of removing mud from vehicle wheels before entering streets.

3.02 TRAFFIC REGULATION

- A. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- B. Flares and lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.
- C. Haul Routes:
 1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
- D. Removal:
 1. Remove equipment and devices when no longer required.
 2. Repair damage caused by demolition.

3.03 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for Owner's use of site and to protect existing facilities and adjacent properties from damage during construction operations.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

3.04 ENCLOSURES AND FENCING

- A. The construction manager will provide fencing and granular surfacing for the lay-down area.

3.05 WASTE REMOVAL

- A. Except for items or materials to be salvaged, recycled or otherwise reused, remove waste materials from project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Waste Disposal Facilities: Provide waste collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. General product requirements
- B. Product options
- C. Maintenance materials
- D. Transportation and handling
- E. Storage and protections

PART 2 - PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

- A. Provide new products unless specifically required or permitted by the contract documents.
- B. Do not use products having any of the following characteristics:
 - 1. Made using or containing CFC's or HCFC's
 - 2. Made of wood from newly cut old growth timber.
- C. Where all other criteria are met, contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions
 - 2. If wet-applied, have lower VOC content
 - 3. Are extracted, harvested, and/or manufactured closer to the location of the project
 - 4. Have longer documented life span under normal used
 - 5. Result in less construction waste
 - 6. Are made of vegetable materials that are rapidly renewable

2.02 PRODUCT OPTIONS

- 1. Products specified by reference standards or by description only: Use of any product meeting those standards or description.
- 2. Products specified by naming one or more manufacturers, with or without a provision for substitutions: Use a product of one of the manufacturers named and meeting specifications or submit a request for substitution for any manufacturer not named by the date specified in this project manual. Substitution requests shall be emailed to the Issuing Officer at the email address provided in Instructions to Bidders Section 1.04.

2.03 MAINTENANCE MATERIALS

- 1. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- 2. Deliver to project site; obtain receipt prior to final payment.

PART 3 - EXECUTION

3.01 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.02 STORAGE AND PROTECTIONS

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to the product.
- E. For exterior storage of fabricated products, place on slopped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturers' warranty conditions, if any.
- H. Cover product subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7300

EXECUTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures
- B. Alteration project procedures
- C. Cutting and patching
- D. Cleaning and protection
- E. Adjusting

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 EXAMINATION, PREPARATION, AND GENERAL INSTALLATION PROCEDURES

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misproduction.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to cutting: Examine existing conditions prior to commencing work; include elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.
- G. Clean substrate surfaces prior to applying next material or substance.
- H. Seal cracks or openings of substrate prior to applying next material or substance.
- I. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.
- J. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- K. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- L. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- M. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- N. Make neat transitions between different surfaces, maintaining texture and appearance.

3.02 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in product sections match existing products and work for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished work.
- E. Remove, cut and patch work in a manner to minimize damage and to provide a means of restoring products and finished to original condition.

- F. Remove debris and abandoned items from area and from concealed spaces.
- G. Refinish visible existing surfaces to remain in renovated rooms and spaces to specified condition for each material with a neat transition to adjacent finishes.
- H. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.
- I. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line of division and make recommendation to the Construction Manager. Prior to cutting get the Owner's approval.
- J. Where change of plane of ¼ inch or more occurs, submit recommendation for providing smooth transition to the Construction Manager for review.

3.03 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements which affect:
 1. Structural integrity of element.
 2. Integrity of weather-exposed or moisture-resistant elements.
 3. Efficiency, maintenance, or safety of element.
 4. Visual qualities of sight exposed elements.
 5. Work of owner or separate contractor.
- C. Execute cutting, fitting, and patching to complete work, and to:
 1. Fit the several parts together, to integrate with other work.
 2. Uncover work to install or correct ill-timed work.
 3. Remove and replace defective and non-conforming work.
 4. Remove samples of installed work for testing.
 5. Provide openings in elements of work for penetrations of mechanical and electrical work.
- D. Execute work by methods to avoid damage to other work and which will provide proper surfaces to receive patching and finishing.
- E. Cut rigid materials using masonry saw or core drill.
- F. Cut masonry and concrete materials using masonry saw or core drill.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work tight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- I. Maintain integrity of wall, ceiling or floor construction; completely seal voids.
- J. Refinish surfaces to match adjacent finishes. Refinish to nearest intersection for continuous surfaces. Refinish entire unit for continuous surfaces for an assembly.
- K. Identify hazardous substances or conditions exposed during the work to the engineer for decision or remedy.

3.04 CLEANING AND PROTECTION

- A. Progress cleaning
 1. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
 2. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.
- B. Protection of installed work
 1. Protect installed work from damage by construction operations.
 2. Provide special protection where specified in individual specification sections.
 3. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
 4. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.
 5. Prohibit traffic from landscaped areas.

3.05 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

END OF SECTION

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

SECTION 01 7700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Inspections
- B. Substantial Completion
- C. Project Record Documents
- D. Warranties
- E. Operations and Maintenance Manuals
- F. Operations and Maintenance Data for Materials and Finishes
- G. Operations and Maintenance Data for Equipment and Systems
- H. Training
- I. Final Completion
- J. Maintenance

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 INSPECTIONS

- A. Ensure all state inspections have been completed by the authority having jurisdiction.
- B. Upload documentation of all test/inspections to Procore.
- C. Submit a written request for inspection of Substantial Completion. On receipt of request, The Design Professional will either proceed with inspection or notify contractor of unfulfilled requirements. The Design Professional 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.

3.02 SUBSTANTIAL COMPLETION

- A. A substantial completion checklist is attached for reference following this specification section.
- B. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to the Construction Manager through upload to Procore.
- C. Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Submit written certification that contract documents have been reviewed, work has been inspected, and that work is completed in accordance with contract documents and ready for review
 - 2. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the work has not been completed.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Make final changeover of permanent locks and deliver key to the owner. Advise owner's personnel of changeover in security provisions.
 - 5. Complete startup testing of systems.
 - 6. Submit test/adjust, balance records.
 - 7. Terminate and remove temporary facilities from project site, along with mockups, construction tools, and similar elements.

8. Advise owner of changeover in heat and other utilities.
9. Submit changeover information related to owner's occupancy, use, operation, and maintenance.
10. Complete final cleaning requirements, including touch up painting.
11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

3.03 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the work:
 1. Drawings
 2. Specifications
 3. Addenda
 4. Change orders and other modifications to the contract
 5. Reviewed shop drawings, product data, and samples
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alterations utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings:
 1. Measured depths of foundations in relation to finish first floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
 4. Field changes of dimension and detail.
 5. Details not on original contract drawings.
- G. Record Drawings shall be uploaded to Procore in pdf format.

3.04 WARRANTIES

- A. Submit written warranties for designated portions of the work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Submit properly executed warranties in Procore prior to Final Completion.
- C. Verify that documents are in proper form, contain full information, and are notarized.
- D. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- E. Include warranties in operation and maintenance manuals.
- F. Items of work delayed beyond date of Substantial Completion, provide updated submittal after acceptance by Owner, listing date of acceptance as start of warranty period

3.05 OPERATIONS AND MAINTENANCE MANUALS

- A. Format: Submit operations and maintenance manuals in the following format:
 1. Portable Document Format (PDF) electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Owner and upload to Procore.
 - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.

2. Assemble with data arranged in the same sequence as, and identified by the specification sections. Where systems involve more than one specification section, provide separate index for each system.
 3. Include project directory listing title and address of project, names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
 4. Include Table of Contents listing every item separated by index and specification section.
- B. Source Data: For each product or system, list names, addresses, and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
 - C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
 - D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use project record documents as maintenance drawings.
 - E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.06 OPERATIONS AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For each product, applied material, and finish:
 1. Product data, with catalog number, size, composition, and color and texture designations.
 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specified products.

3.07 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For each item of equipment and each system:
 1. Description of unit or system, and component parts
 2. Identify function, normal operating characteristics, and limiting conditions
 3. Include performance curves, with engineering data and tests
 4. Complete nomenclature and model number of replacement parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specified products.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- F. Maintenance requirements: Include routine procedure and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- G. Provide servicing and lubrication schedule and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.

- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Provide control diagrams by controls manufacturer as installed.
- L. Provide contractor's coordination drawings, with color coded piping diagrams as installed.
- M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- O. Include test and balancing reports.
- P. Additional requirements: As specified in individual specification sections.

3.08 TRAINING

- A. Demonstrate operations of systems, subsystems, and equipment.
- B. Train in operation and maintenance of systems, subsystems, and equipment
- C. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- D. Submit written agenda to Construction Manager for approval prior to scheduling training.
- E. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

3.09 FINAL COMPLETION

- A. A final completion checklist is attached for reference following this specification section.
- B. Before requesting final inspection for determining date of Final Completion, complete the following:
 - 1. Complete punch list items.
 - 2. Prepare and submit project record documents, operation and maintenance manuals, damage or settlement surveys, and similar final record information.
 - 3. Deliver tools, spare parts, extra materials, and similar items to location designated by owner. Label with manufacturer's name and model number where applicable.
 - 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
 - 5. All trailers, construction signs, unused, broken or demolition materials have been removed from the site and the premises returned to the original condition in the opinion of the Owner and Design Professional.
 - 6. Submit a final Application for Payment (retainage).
- C. Upon receipt of final payment complete final completion certificate in Procure.

END OF SECTION

Substantial Completion Project Checklist

Date: _____

DAS Project Number: _____

Project Title: _____

Location: _____

Contractor: _____

In order to process the 99% payment (100% pay app less closeout and retainage) on a Capital Project, the Department of Administrative Services needs the following information. Please complete this form and obtain the necessary documents.

Have all state inspections been completed and documentation uploaded to Procore?
(Including but not limited to the following inspections)

- Boiler Inspection Yes No N/A
- Water Heater Inspection Yes No N/A
- Energy Code Inspection Yes No N/A
- Building Code Inspection Yes No N/A
- Electrical Inspection Yes No N/A
- Elevator Inspection Yes No N/A
- Other: _____ Yes No N/A

Occupancy Permit if applicable

Test and Balance has been performed

Certificate of Substantial Completion in Procore (Consensus Docs 814)

Are there any disputes with the above mentioned vendor which need resolution?

Yes (provide description below) No

Can payment (less closeout and retainage) be released? Yes No

**THIS PAGE
INTENTIONALLY
LEFT BLANK**

Final Completion Project Checklist

Date: _____

DAS Project Number: _____

Project Title: _____

Location: _____

Contractor: _____

In order to process the 100% payment and Retainage payment on a Capital Project, the Department of Administrative Services needs the following information. Please complete this form and obtain the necessary documents.

Have all Warranties been received? Yes No

Have the Operations and Maintenance Manuals been received? Yes No

Who is in possession of the O & M Manuals? _____

Has all training been completed? Yes No

Have all as-built drawings been scanned and uploaded into Procore? Yes No

Have electronic drawing/specification files been transferred to DAS? Yes No

Have all Test & Balance reports been received? Yes No

Have all punchlist items been corrected? Yes No

573 Notification (*To be obtained from the general contractor*): Copy of general contractor's notification of application for retainage to all subcontractors and suppliers. General contractor must follow IAC 26 section 23.13.2.

AIA Form G706 – Contractor's Affidavit of Payment of Debts and Claims

AIA Form G706A – Contractor's Affidavit of Release of Liens

AIA Form G707 – Consent of Surety Company to Final Payment

Certificate of Final Completion in Procore (Consensus Docs 815)

Are there any disputes with the above mentioned vendor which need resolution?

Yes (provide description below) No

Can 100% payment and retainage payment be released? Yes No

SECTION 01 9000

ATLAS ABATEMENT SPECIFICATIONS



**A S B E S T O S A B A T E M E N T
S P E C I F I C A T I O N**

Decentralization Phase 4 and Fire Alarm Project RFB#927940-01
Birches, Powerhouse, Elmcrest and Medical Center
Woodward Resource Center
1251 334th Street
Woodward, Iowa 50276

March 17, 2025

Project No. 204BS07475-Task 2

PREPARED FOR:

Iowa Department of Administrative Services
109 SE 13th Street
Des Moines, IA 50319

PREPARED BY:

Atlas Technical Consultants LLC
4503 East 50th Street, Suite 800
Des Moines, Iowa 50317

A handwritten signature in black ink, appearing to read "Phillip Thomas". The signature is written in a cursive, flowing style.

Phillip Thomas, OHST, CHMM
Iowa Asbestos Project Designer #25-12850



Asbestos Abatement Specification Section 2081

PART 1 - GENERAL

1.1 INTRODUCTION

Asbestos abatement in building spaces is governed by rules established by the State of Iowa. This specification section addresses or references the requirements for complying with Department of Labor (DOL), Iowa Department of Natural Resources (IDNR), Occupation Safety and Health Organization Administration (OSHA), and the United States Environmental Protection Agency (USEPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) asbestos rules. Each and every rule requirement may not be restated in detail since trained, accredited, and licensed contractors and individuals are required for this work and are presumed to be familiar with the relevant laws and rules. Full regulatory compliance is required, and is a part of the contract, whether specifically stated herein or not.

1.2 DEFINITIONS

In addition to the terms listed below, all definitions in the laws and regulations listed in Section 1.5 are incorporated by reference, whether or not restated herein.

ACM: Asbestos Containing Materials any material containing greater than one percent (>1%) asbestos by laboratory analysis

Abatement Contractor (AC): the entity responsible for performing the work in this section, and has the training and accreditation to competently perform the work. This entity will obtain and maintain licenses required for the work identified in this section

Asbestos Abatement Supervisor: hereinafter referred to as “supervisor” means any person who supervises asbestos abatement workers. This person must be trained, accredited, and licensed as required, and must also meet OSHA “competent person” criteria for asbestos abatement

Environmental Consultant (EC): is selected by the Owner to serve as the Environmental Project Manager on their behalf. For this project the EC shall be Atlas Technical Consultants LLC

Environmental Project Manager (EPM): is the EC representative to perform environmental monitoring and testing activities on behalf of the Owner on the project, this also shall be Atlas Technical Consultants LLC

HEPA Filter: a High Efficiency Particulate Air filter capable of trapping 99.97% percent of mono-dispersed particles greater than 0.3 micrometers in mass median aerodynamic equivalent diameter

IDNR: the Iowa Department of Natural Resources

NESHAP: the National Emission Standards for Hazardous Air Pollutants

NIOSH: the National Institute for Occupational Safety and Health

OSHA: the Occupational Safety and Health Administration

Owner: the owner of the property and the authority ordering the work specified herein

PCM: Phase Contrast Microscopy



Plasticize: to apply plastic sheeting over surfaces or objects to protect them from contamination or water damage.

PPE (Personal Protective Equipment): protective suits, head and foot covers, gloves, respirators and other items used to protect persons from asbestos or other hazards

SDS: Safety Data Sheet, required by OSHA for any substances which are toxic, caustic, or otherwise hazardous to workers

USEPA: the United States Environmental Protection Agency

Work Area: area or areas where asbestos abatement is being conducted

1.3 SCOPE OF WORK

It is the intent of the Owner to remove the asbestos containing materials identified in Table 1 below:

TABLE 2: ASBESTOS-CONTAINING MATERIALS				
Sample Number	Material	Location	Approx. Quantity	Asbestos Content
E-1, E-9	Window Glazing	Elmcrest Building: Exterior, Basement Level – Storage B35 and Chiller B39A	2 windows	3-4% Chrysotile
WRC-MC-1, 2	Window Caulking (white)	Medical Center: Exterior, Basement, Laundry/Storage B23 – North Windows and Storage B22 – Northwest Window	3 windows	5% Chrysotile
B-51	Window Glazing	Birches Building: Exterior, Basement Level – Storage B08, Shop Space B05; 1 st Floor – Shop Area 105; 2 nd Floor – Storage 205	7 windows	5% Chrysotile
B-52	Window Caulk (gray)			10% Chrysotile

SF = Square Feet, LF = Linear Feet; MF = Mechanical Fitting

It shall be the AC’s responsibility to furnish a lift for the abatement/removal of the upper windows.

The Construction Manager will be responsible for infill of the windows removed following asbestos abatement.

Note: The chilled water supply and return lines, thermal systems insulation (TSI), throughout the basement level of Elmcrest is non-asbestos containing molded yellow foam with non-asbestos containing black foam mechanical fittings and the basement level TSI in the Medical Center is non-asbestos containing fiberglass insulation with non-asbestos black foam mechanical fittings.

Two additional bulk samples were collected from suspect mudded mechanical fittings on the basement level and tunnel outside of the food service area of the Elmcrest Building where the chilled water supply and return line mechanical tie-ins will take place. Neither of the samples contained asbestos. The analytical results and chain of custody have been included as an attachment to this specification

If the contractor identifies any additional suspect ACMs that may be disturbed during the project, stop work and the material(s) will be sampled and analyzed prior to disturbance.

Asbestos Abatement Specification – R01

WRC Phase 4 Decentralization & Fire Alarm Project RFB#9279-01 ♦ Woodward, IA
March 17, 2025 ♦ Project No. 204BS07475-Task 2



Drawings are provided to identify locations of these materials. All ACM noted on the drawings shall be removed. The contractor is responsible for quantifying the materials in the scope of work during the pre-bid site visit. Any discrepancies of locations or quantities should be brought to the attention of EC as soon as possible and before the bid due date. ACM found inside the work areas, or noted in the drawings, shall be the responsibility of the AC for abatement at no additional cost to the Owner.

1.4 WORK INCLUDED

- A. The work includes all labor, equipment, materials, and supplies necessary to perform the scope of work in the documents by the procedures described herein. The contractor, by submitting a bid for the work, represents itself as knowledgeable and expert in the performance of the work, and includes all things usually and customarily necessary to provide a complete and finished job, whether specifically mentioned or not. Related work may be shown in other related documents, prepared by others. Where there is conflict in the documents, written clarification should be requested to the EC.
- B. Removal of asbestos-containing material listed in Section 1.3, including pre-cleaning, establishing regulated areas, isolating the work areas, protection of adjacent areas, containment, construction curtain, cleanup and decontamination to the specified clearance levels, proper packaging and disposal of wastes, and all other steps necessary to complete the scope of work.
- C. Prior to performing abatement, the Contractor is required to restrict public access and visibility of the work by installing a temporary barrier in front of the staging area. The barrier shall include black poly sheeting and secured to prevent unauthorized access.
- D. Exhaust units must be vented to the outside of the building. This may involve the use of additional lengths of flexible duct connected to the unit and routed to the nearest outside opening. When not feasible due to fixed windows, as determined by the EC, negative air machines will be double HEPA filtered. The area receiving the exhaust shall not interfere with building occupant activities. Air monitoring by the EC shall be performed at the final exhaust location of the negative air machine if exhausting to the indoors.
- E. Compliance with all applicable laws, regulations, standards, and these specifications. In the case of a conflict, the contractor will comply with the most stringent.
- F. Contractor is required to fully comply with these specifications.
- G. All licenses, accreditations, permits, fees, notifications, reports, or other documents required by law, regulation, this specification, or the Documents.
- H. Provide project closeout documentation to the EC within 30 days after final clearance of each Phase. This documentation shall include, but is not limited to, items listed in Section 1.7, Submittals by the AC.

1.5 LAWS, REGULATIONS AND STANDARDS

- A. The following laws, regulations, and standards are incorporated by reference:
 - 1. Iowa Division of Labor (DOL), Iowa Workforce Development
Iowa Administrative Code (IAC) 875 Chapter 10 (IAC 875-10)
IAC 875-155
 - 2. Iowa Department of Natural Resources (IDNR)
IAC 567-23
 - 3. Occupational Safety and Health Administration administered by the Iowa Department of Labor:
29 CFR 1910.134 US OSHA Respiratory Protection
29 CFR 1910 US OSHA General Industry Standards

Asbestos Abatement Specification – R01

WRC Phase 4 Decentralization & Fire Alarm Project RFB#9279-01 • Woodward, IA
March 17, 2025 • Project No. 204BS07475-Task 2



29 CFR 1926	US OSHA Construction Standards
29 CFR 1926.1101	US OSHA Asbestos Construction Standards
29 CFR 1910.1001	US OSHA Asbestos Standards

4. Environmental Protection Agency NESHAPS regulations administered by the Iowa Department of Natural Resources including:
 - ASHARA USEPA Asbestos School Hazard Abatement Reauthorization Act
 - 40 CFR Part 61 USEPA National Emissions Standards for Hazardous Air Pollutants (NESHAP)
 - 40 CFR 763 Subpart E USEPA Asbestos Hazard Emergency Response Act (AHERA) Rules
 - 40 CFR 763 Subpart E, USEPA Asbestos Model Accreditation Plan (MAP): Appendix C Interim Final Rule

1.6 ASSESSMENT, MONITORING, TESTING AND ANALYSIS

- A. The EPM will be independent of the AC and hired by the State for monitoring the project. The EPM will perform testing, inspection, and monitoring services during the asbestos work and upon its completion. The EPM will be licensed for asbestos, trained for PCM analysis and a participant in a quality control program for proficiency. The monitoring will include the following parameters:
 1. On an as needed basis during the work, the EPM shall:
 - a. Enter the work area to inspect the work procedures and work area integrity.
 - b. Collect air samples outside the work area at the perimeter and at the exhaust of the negative air machine.
 - c. The EC will stop the work if airborne asbestos concentrations outside the work area exceed 0.01 f/cc. The work may restart when the source of fiber release has been identified and corrected. Contractor will be responsible for cleaning and decontaminating the outside area if caused by the asbestos abatement activities.
 2. Upon completion of the work, the EC shall:
 - a. Visually inspect the work area for visible debris and/or gross contamination.
 - b. Contractor shall be required to re-clean the area, or portions of areas, until no visible debris and/or gross contamination remains, and the work area is dry.
 - c. Clearance testing by PCM will be performed for each work area.
 - d. Collection and analysis of samples will be conducted in general accordance with NIOSH Method 7400 and the clearance level will not exceed 0.01 f/cc.
 - e. Preparation and submittal of the Project Report to the Owner within 30 days of project completion and receipt of all waste manifests.
- B. The Contractor shall provide OSHA compliance air monitoring to determine exposures to its employees in accordance with OSHA 29 CFR 1926.1101. Frequency of testing will comply with OSHA requirements for the anticipated and actual exposure levels.
 1. A written Exposure Assessment is required prior to the start of the work to determine the requirements for respiratory protection and frequency of OSHA monitoring for each type of activity. If the DOL requests additional monitoring and data for the exposure assessment, the testing will be conducted at the expense of the abatement contractor.
 2. Analysis may be performed on-site by a trained Air Sampling Professional experienced in the fiber counting methods outlined in NIOSH Method 7400 and supporting training documentation or successful training certificate.



1.7 SUBMITTALS BY THE CONTRACTOR

- A. Bid Submittals. The following list of items shall be submitted in whole upon award of the bid. If the following items are not submitted by the Contractor, the bid may be rejected.
1. Contractor must submit a copy of their current unexpired Iowa permit/license to perform asbestos abatement and their Iowa Contractor Registration.
 2. Disclosure of past and pending violations in respect to environmental, safety or asbestos rules (State and Federal).
- B. All asbestos notifications should be made within the accepted time frame to the Iowa Department of Natural Resources and Iowa Department of Labor as required. Notifications shall be submitted a minimum of 10 working days before commencement of work. A copy of the required submittals shall also be provided to the EC for review prior to submittal to the regulatory agencies.
- C. After the project is awarded, the selected Contractor shall provide the following to the EC 10 days prior to commencement of Work:
1. Documentation of arrangements of transport and disposal, and landfill name and location.
 2. Contractor must submit a copy of their current unexpired Iowa Asbestos Abatement Worker and Supervisor license for all workers anticipated to be assigned to this project. Worker training documentation, medical examinations, fit tests, certifications and training courses shall also be provided that are relevant to the Project.
 4. Drawings or sketches for layout and construction of isolation barriers and decontamination units and type of containments.
 5. Respirators: NIOSH approvals and manufacturer certification of P-100 cartridges.
 6. Fit test documentation for all employees and the fit test agent.
 7. Manufacturers' certifications that all HEPA vacuums, negative air pressure equipment, and other local exhaust ventilation equipment conform to ANSI Z9.2-79
 8. OSHA Exposure Assessment, if applicable.
 9. Laboratory and analyst credentials for contractor OSHA samples.
 10. Safety Data Sheets (SDS) for chemicals used on-site.
- D. To the EC weekly during the abatement work:
1. Job progress reports detailing abatement activities, progress compared to schedule, problems and actions taken, injury reports, and equipment breakdowns.
 2. Quantity of asbestos materials removed.
 3. Waste Shipment Records.
 4. Work site Entry logs.
 5. Measurement logs for negative pressure differentials for each containment.
 6. Filter Change logs for respirators, HEPA vacuums, negative air machines, and other engineering controls.
 7. OSHA compliance air monitoring data.
 8. Worker license and certification log.



PART 2 - PRODUCTS

2.1 TOOLS AND EQUIPMENT

All equipment shall at least conform to minimum industry standards (i.e. ground-fault circuit interrupter (GFCI)).

A. Equipment:

1. Negative Air Machines shall provide HEPA filtration and conform to ANSI Z9.2 fabrication criteria.
2. Respirators shall be NIOSH approved for use with asbestos or other contaminants anticipated in the work.
3. Contractor is fully responsible for complying with OSHA rules for other safety equipment, such as hard hats, safety harnesses, eye protection, gloves, footwear, and any other safety devices used on the site.

B. Tools:

1. Shovels and scoops shall be metal, rubber or plastic, suitable for use in a plasticized containment.
2. Scrapers, brushes, utility knives and other hand tools shall be of good quality and suitable for the intended uses. The contractor shall keep an ample supply on hand for the completion of the work. If fixed open blade knives are to be used, the proper hand protection shall be utilized (i.e. cut resistant gloves).
3. Power tools such as, but not limited to saws, pneumatic chisels, brushes, sanders, and needle guns shall be equipped with shrouds and HEPA-filtered local exhaust systems to capture released particles.
4. Submit proposed tools and methods to be used for removal.
5. Unsafe tools or improper usage of tools may become prohibited items at the discretion of the Owner's Representative based on safety concerns.

2.2 MATERIALS

A. Installed materials which become a part of the work such as, but not limited to, encapsulants shall be of good quality, non-lead-bearing, free of asbestos, and conform to the respective reinstallation specification sections prepared by others.

1. Contractor shall ensure that encapsulants and sealants used as primers, basecoats, or covering existing materials are compatible with the respective existing or reinstallation materials and their manufacturers' warranties.

B. Abatement materials

1. Polyethylene sheeting for all applications shall be 6-mil nominal thickness for floors, drop cloths, and walls.
2. Tape shall be 2" or 3" duct tape or other waterproof tape suitable for joining poly seams and attaching poly sheeting to surfaces.
3. Spray adhesives shall be non-flammable and free of methylene chloride solvents.
4. Disposal bags shall be 6-mil polyethylene and shall be properly labeled.
5. Disposable suits, hoods, and foot coverings shall be TYVEK® or similar.



6. Solvents shall be compatible with any primers, mastics, adhesives, paints, coatings, or other surfacing materials to be installed following their use.

- C. ACCEPTABLE MANUFACTURERS/PRODUCTS: All products must meet or exceed ASTM standards.

PART 3 - EXECUTION

3.1 EMPLOYEE TRAINING, QUALIFICATION AND MEDICAL SCREENING

- A. Supervisors and Workers shall be trained, accredited, and licensed in accordance with State and Federal rules.
 1. Contractor shall keep copies of licenses, initial training course certificate, and most recent annual refresher training certificate at the jobsite at all times for all contractor personnel.
 2. A licensed asbestos abatement supervisor (competent person) shall be present at the worksite at all times when work under this section is being conducted.
- B. Medical Screening. All contractor personnel shall have a current medical examination in accordance with OSHA requirements. Copies of the Physician's Written Opinions shall be kept on site.

3.2 PERMISSIBLE EXPOSURE LIMITS

- A. The OSHA permissible exposure limit (PEL) for worker exposure to airborne asbestos is 0.1 f/cc as an 8-hour time-weighted average (TWA).
- B. The OSHA short term excursion limit for worker exposure to airborne asbestos is 1.0 f/cc for a 30 minute sample.
- C. The permissible level of airborne fibers in areas adjacent to the work area is 0.01 f/cc as determined by PCM in general accordance with NIOSH Method 7400.
 1. Work shall immediately cease in the work area containment when an airborne fiber concentrations exceed this level.
 2. The source of outside contamination shall be determined, and corrective measures (e.g. wet cleaning, changes in work practices, negative pressure containment) shall be implemented to prevent recurrence.
 3. The contractor shall be responsible for cleanup of contamination in adjacent areas caused by the asbestos abatement activities.

3.3 EXPOSURE ASSESSMENT AND MONITORING

- A. The Contractor shall make an assessment of the airborne exposures. The assessment shall conform to OSHA requirements and may be based upon:
 1. Initial monitoring of representative workers who the contractor believes are exposed to the greatest airborne concentrations of asbestos.
 2. Past monitoring (within the past 12 months) or objective data for conditions closely resembling the processes, type of material, control methods, work practices and environmental conditions to be used for this project.



3. Review of the documentation may require approval from local regulators to be accepted.
- B. The contractor shall perform daily personal monitoring in accordance with those requirements as established in OSHA or by the local governing authority / enforcement officer.

3.4 RESPIRATORY PROTECTION

- A. Respiratory protection shall be worn by all persons potentially exposed to airborne asbestos fibers from the start of the abatement project until all areas have passed clearance air monitoring.
- B. Contractor shall have a written respiratory protection program in accordance with OSHA 29 CFR 1910.134, including but not limited to, medical screening, semi-annual fit testing, training, cleaning and maintenance.
- C. Respirators shall not be removed while in the work area.
- D. Only NIOSH-approved respirators shall be used.
- E. Additional respiratory protection such as organic vapor cartridges, may be needed when handling some solvents, coatings, or stripping products. Consult the MSDS, manufacturer, or industrial hygienist, and obtain the proper cartridges and usages as necessary.

3.5 HYGIENE PRACTICES

- A. Eating, drinking, smoking, chewing gum or tobacco, and applying of cosmetics are not allowed in the work area.
- B. All persons entering the work area are required to wear appropriate PPE, and follow the entry and exit procedures posted in the Personnel Decontamination Enclosure System.
- C. PPE shall include, at a minimum:
 1. Full body disposable suits, headgear (including respirators), and footwear.
 2. Gloves.
 3. Non-disposable footwear and clothing shall remain in the work area and shall be disposed of as contaminated waste when the job is completed.
 4. Authorized visitors shall be provided with suitable PPE.

3.6 PROHIBITED ACTIVITIES

- A. Dry removal or dry sweeping.
- B. Use of compressed air for cleaning.
- C. Use of high speed power tools not equipped with a HEPA-filtered local exhaust system.

3.7 WORK AREA ISOLATION AND PREPARATION

- A. General Preparation. Contractor shall:
 1. Post:
 - a. OSHA asbestos warning signs at every entrance to the work area.

Asbestos Abatement Specification – R01

WRC Phase 4 Decentralization & Fire Alarm Project RFB#9279-01 ♦ Woodward, IA
March 17, 2025 ♦ Project No. 204BS07475-Task 2



- b. Decontamination and work procedures in equipment rooms and clean rooms.
 - c. USEPA NESHAP asbestos rules (40 CFR Part 61, subparts A & M) in the clean room.
 - d. OSHA Asbestos Construction Standards (29 CFR 1926.1101) in the clean room.
 - e. Entry and Exit Log
 - f. List of telephone numbers in the clean room for:
 - (1) local hospital and/or local emergency squad.
 - (2) owner security office (if applicable).
 - (3) owner representative reachable 24 hours per day.
 - (4) contractor's headquarters.
 - (5) architects or consultants directly involved in the project.
2. Secure the work area from entry by unauthorized persons using black polyethylene sheeting as a construction area barrier and post construction warning signs.
 3. Separate work areas from occupied areas.
 - a. Seal off all doorways and corridors which will not be used for passage during work.
 - b. Install isolation barriers in all openings larger than 4' x 8', consisting of double-layer 6-mil poly to prevent access to the contained areas.
 4. Have an approved fire extinguisher in the equipment room.
 5. Install and maintain walk-off mats to the general work entrance.

B. Interior Preparation

1. Install negative air machine in the work area. The equipment shall exhaust through a HEPA filter to the outside of the building, or the exhaust will be double filtered. The equipment shall remain in operation twenty-four hours a day until decontamination of the work area and final air sampling and analysis is completed. Seal openings around exhaust ducts. Exhaust from the negative air movement equipment shall not be allowed to be released within the buildings unless unfeasible as determined by the EC. All HEPA filtered air movement equipment shall be maintained according to this specification or regulations.
2. Shut down and isolate heating, ventilating, air conditioning (HVAC) systems which are within the work area.
3. Seal off all windows, corridors, doorways, bathrooms, closets, skylights, ducts, grilles, diffusers, and other penetrations or openings with 6-mil poly and tape.
4. Protect and cover floors, in those areas in which no abatement is to be performed with 6-mil poly with seams staggered and taped, and extending 12" up walls. Maintain for the duration of the project.
5. Protect and cover the walls in the work area.
6. Protect and cover non-movable fixed objects from which no abatement will be conducted (e.g. fixed cabinets, shelves, etc.).
7. Asbestos materials shall not be disturbed during the Preparation phase.
8. Maintain emergency and fire exits.
9. In all areas for abatement install a three chamber Worker Decontamination Enclosure System, consisting of clean room, shower room (both hot and cold water), and equipment



room separated by air locks, all with curtained doorways, of sufficient size to serve the size of the crew.

- a. Where an adjacent decon unit is not feasible (i.e., for multiple tented glovebag operations), the AC shall (only with an approved variance from the EC):
 - (1) set up the decon unit within the work area barriers
 - (2) establish a negative pressure of at least 0.02" water column (wc) between the equipment room and adjacent spaces, including the clean room
 - (3) provide at least 4 air changes per hour within the decontamination unit

10. Once operational, the system shall be inspected daily. Damages and defects will be repaired immediately upon discovery.

B. Exterior Preparation (for areas that interface with interior work)

1. 6 mil poly sheeting shall be placed over the ground, foundation, or other surfaces below the abatement area.
2. Unauthorized entry shall be prevented by using appropriate barriers, such as warning tape, fencing, or other suitable barriers.
3. Nearby air intakes, grilles, and other openings into the building interior shall be sealed off with 6 mil poly and tape.

3.8 ABATEMENT PROCEDURES

A. Removal:

1. Asbestos materials shall be wetted and kept wet during removal.
2. ACM waste shall be bagged or containerized as it is removed.
3. Work areas shall be kept wet until visible material is cleaned up.
4. Asbestos waste shall be removed from the work area daily.
 - a. The waste shall be placed and sealed in a properly labeled 6-mil poly bag.
 - b. The bag shall be cleaned and placed in a second properly labeled 6-mil poly bag. This bag shall be sealed by securing with duct tape, folding over taped area and goose necking with duct tape.

3.9 CLEANING AND DECONTAMINATION

A. All visible accumulations of ACM, debris, tools, and unnecessary equipment shall be removed from the work area.

C. First clean:

1. Wet clean all surfaces and remove excess water.
2. Remove outer layer of poly and dispose as ACM waste (splash guards and poly protecting the underlying surfaces).
3. Critical barriers on windows, doors, penetrations, and other openings shall remain in place and negative air system shall remain in continuous operation until final clearance tests have passed.



- C. Visual inspection: EC and contractor jointly inspect the work area for visible residue and excess water and, if observed, repeat the clean/ wait cycle until residues are not detected and work area is dry.
- D. Remove all tools, cleaning materials, remaining wastes from the work area.
- E. Apply lock-down encapsulants where specified in the Documents.
- F. Notify EC that work area is ready for final clearance testing.

3.10 FINAL CLEARANCE

- A. Final clearance testing shall be performed after the final cleaning and visual inspection has been completed and where no visible water or condensation remains.
- B. All work areas shall be tested and analyzed by either PCM or Transmission Electron Microscopy (TEM) methodologies.
- C. If final clearance test(s) fail, the AC shall be responsible for repeating the cleaning sequence as necessary until final clearance tests are successful, at no additional cost to the owner. The AC shall also be responsible for paying for the additional time and expenses incurred by the EC for conducting the repeat clearance sampling, analysis and project oversight.
- D. Upon completion of a successful visual inspection and test, a “punch list” walkthrough shall be conducted for each area that contained special wastes, non-hazardous special waste or hazardous waste within five working days of completion of the work by the Contractor. The Contractor, Environmental Consultant and the Owner will participate in the walkthrough. All punch list items shall be completed within five working days of walkthrough. The items will include all deficiencies found in the inspections of the AC’s work which is to be corrected. When the deficiencies have been removed, the AC shall request a re-inspection by the EC.

3.11 SPECIAL PROCEDURES

- A. **Glovebag Procedure.** Glovebags may be used to remove small sections of ACM pipe insulation encountered.
 - 1. Typical Preparation/notification requirements apply.
 - 2. Glovebag removal will require a single layer, 6 mil poly tent containment with negative pressure air filtration.
 - 3. Monitoring will be performed by the EC.
 - 4. Glovebag construction shall be 6 mil poly with seamless bottom, suitable for the intended use (straight runs, fittings, elbows, vertical pipes, etc.) without modification.
 - 5. At least two licensed workers shall perform glovebag operations.
 - 6. Workers shall wear full body PPE and at least a ½ mask respirator equipped with a P-100 cartridge. Note here, too, that OSHA still requires an exposure assessment and respirators that are appropriate for the expected airborne fiber concentrations.
 - 7. Prior to use, all loose or damaged material adjacent to the operation shall be wrapped in two layers of 6 mil poly or otherwise be rendered intact.
 - 8. Work Practices shall include:
 - a. Install to completely cover the circumference of pipe or other structure. Pipe insulation diameter shall not exceed ½ the bag working length above the glove sleeves.



- b. Smoke test for leaks and seal any leaks prior to use.
- c. Single use and not moved.
- d. Wet removal methods on the materials to be removed and wet cleaning to remove all visible ACM from the pipe or structure surfaces.
- e. Not to be used on surfaces greater than 150°F.
- f. Spray down the interior surfaces of the bag, substrate, and removed ACM.
- g. Wet down remaining ACM surfaces or seal with encapsulant.
- h. Seal off the lower portion of the bag containing the ACM waste by twisting several times and sealing with tape.
- i. Collapse glovebag with a HEPA vacuum.
- j. Place the detached glovebag directly into a 6 mil poly waste disposal bag and gooseneck-seal it in the waste disposal bag for disposal.
- k. Dispose in accordance with this specification.

3.12 WASTE DISPOSAL AND EQUIPMENT LOAD-OUT

A. Preparing equipment for load-out

- 1. Remove gross debris from equipment and wet wipe all surfaces.
- 2. Seal openings to prevent escape of internal contamination; or open equipment, remove filters, and make equipment interiors accessible for cleaning and decontamination.

B. Packaging asbestos wastes:

- 1. All asbestos-containing wastes, including removed ACM and debris, containment poly, critical barrier materials, suits, respirator cartridges, vacuums and negative air machine HEPA filters, water filters, and other asbestos-containing items shall be properly packaged in 6 mil poly for disposal.
- 2. Use double 6 mil poly bags with “gooseneck” seal, or other impermeable containers.
- 3. Wrap large or irregular items in 2 layers of 6 mil poly sheeting and seal with tape.
- 4. Sharp, jagged, or other items that may puncture poly shall be packaged in rigid impermeable containers such as drums or boxes or wrapped in burlap or other protective covering before sealing in double bags or double layers of 6 mil poly.
- 5. Label containers:
 - a. OSHA warning label.
 - b. DOT performance-oriented hazardous material label.
 - c. Name and address of generator and abatement location.

C. Removing items from the work area:

- 1. Packaged asbestos wastes, non-porous debris (such as doors, hardware, and other items that can be decontaminated), and equipment shall be wet cleaned, moved into the equipment decontamination enclosure system, cleaned a second time, and moved into the holding area.
- 2. Containers and equipment shall be removed from the holding area by workers in clean PPE and respirators who enter from the uncontaminated side (outside). The equipment decontamination enclosure system shall not be used to enter or exit the work area.

Asbestos Abatement Specification – R01

WRC Phase 4 Decentralization & Fire Alarm Project RFB#9279-01 ♦ Woodward, IA
March 17, 2025 ♦ Project No. 204BS07475-Task 2



- D. Storage of packaged asbestos wastes shall be in a completely enclosed dumpster or other suitable container that can be secured. The secured area shall be kept locked at all times to prevent unauthorized access.

- E. Shipment of items from the project.
 - 1. Decontaminated tools and equipment may be shipped by normal carrier to warehouse, another jobsite, or other destination.
 - 2. For asbestos wastes:
 - a. Line shipping container with 6 mil poly prior to loading packaged asbestos wastes.
 - b. Post NESHAP placards during loading.
 - c. Persons performing loading operations shall wear PPE including respirators.
 - d. Containers and packages shall be tightly packed together to prevent shifting during transport. Large components or heavy items shall be secured to prevent shifting and shall not be stacked on top of bags.
 - e. Execute the NESHAP-required Waste Shipment Record (WSR) to be signed by the generator, transporter, and landfill. All WSRs shall be returned to the EC within 30 days of shipment.

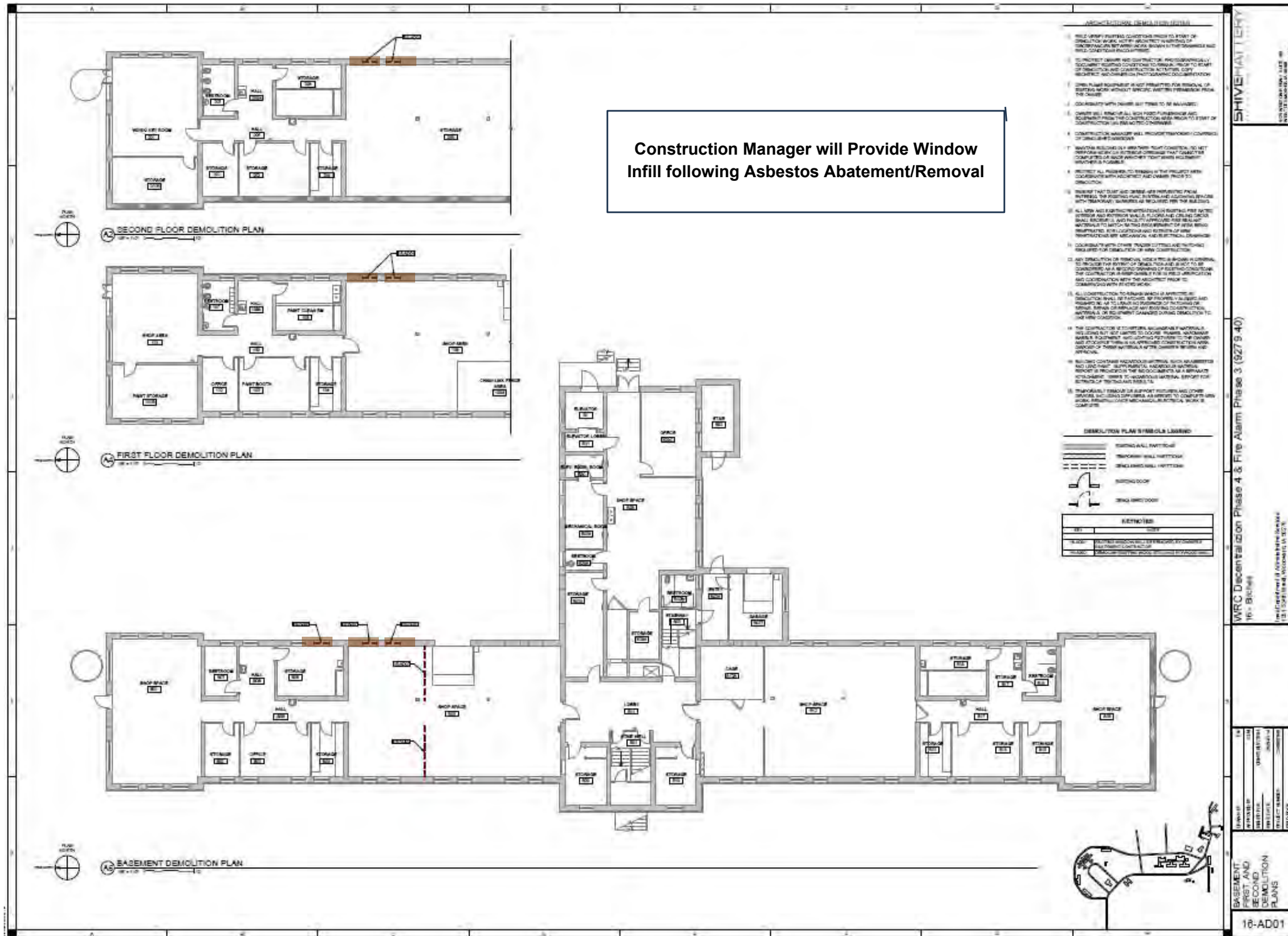
- F. Disposal of packaged asbestos wastes.
 - 1. Only landfills approved and permitted by the State of Iowa for accepting asbestos wastes may be used for disposal.

3.13 DEMOBILIZATION

- A. EC shall visually inspect the work area for evidence of visible debris prior to releasing the area for tear-down. Detection of contamination will require additional cleaning and re-testing of the work area.

- B. Remove critical barriers and seals.

END OF SECTION 02081



■ = Asbestos Containing Window Glazing & Caulking

Project No. 204BS07475-Task 2	Date: March 17, 2025
Project Manager: Phillip Thomas	
Name: Basement Level	

ATLAS

11117 Mockingbird Drive
Omaha, NE 68137
PH. (402) 697-9747

Asbestos Containing Materials Locations

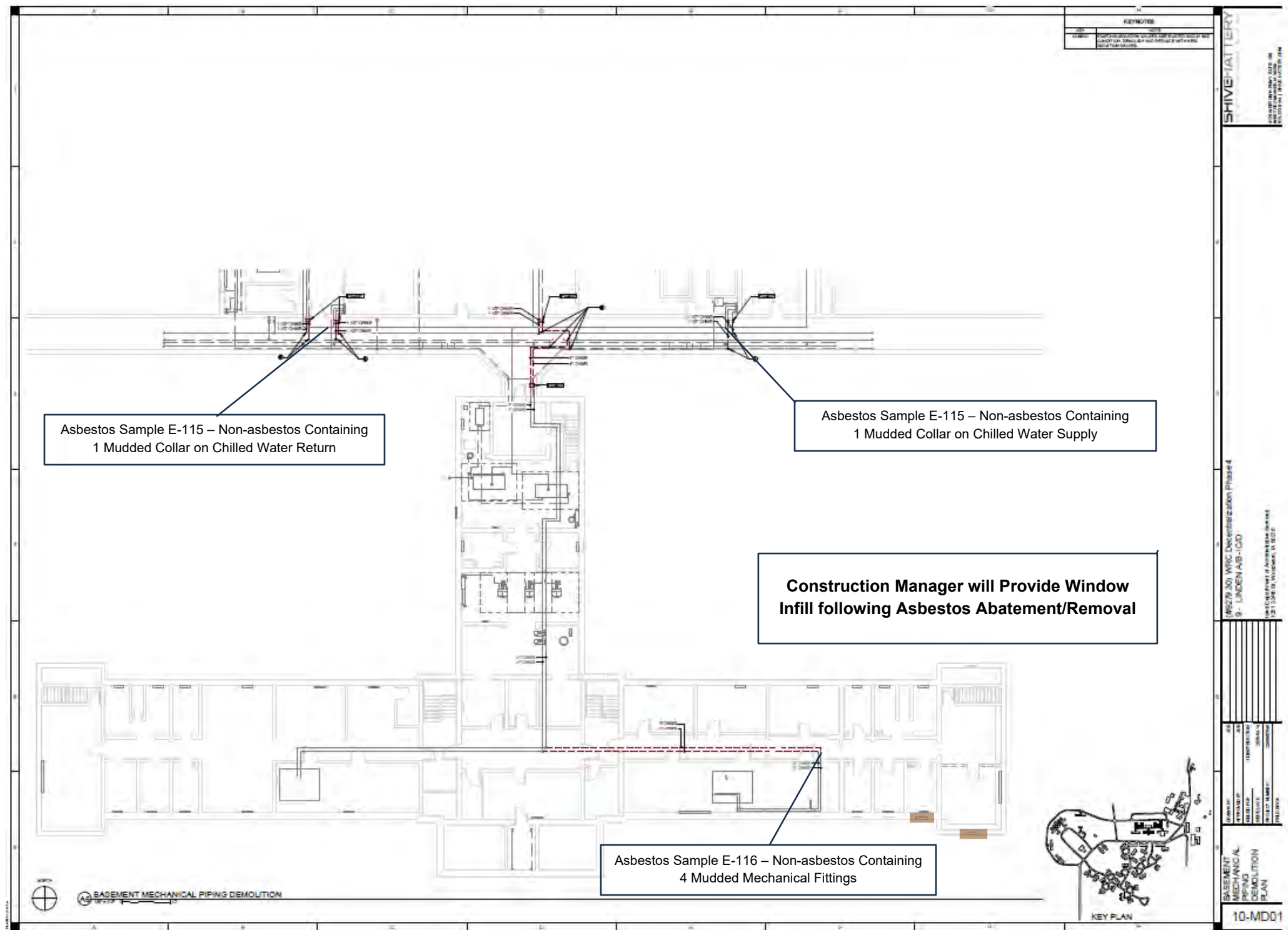
Birches Building
1251 334th Street
Woodward, IA 50276

SHIVERS HAT TERY

WRC Demolition Phase 4 & Fire Alarm Phase 3 (927 9 40)

16- Birch

18-AD01



■ = Asbestos Containing Window Glazing

Project No. 204BS07475-Task 2
 Project Manager: Phillip Thomas
 Name: Basement Level

Date: March 17, 2025



11117 Mockingbird Drive
 Omaha, NE 68137
 PH. (402) 697-9747

Asbestos Containing Materials Locations

Elmcrest Building
 1251 334th Street
 Woodward, IA 50276

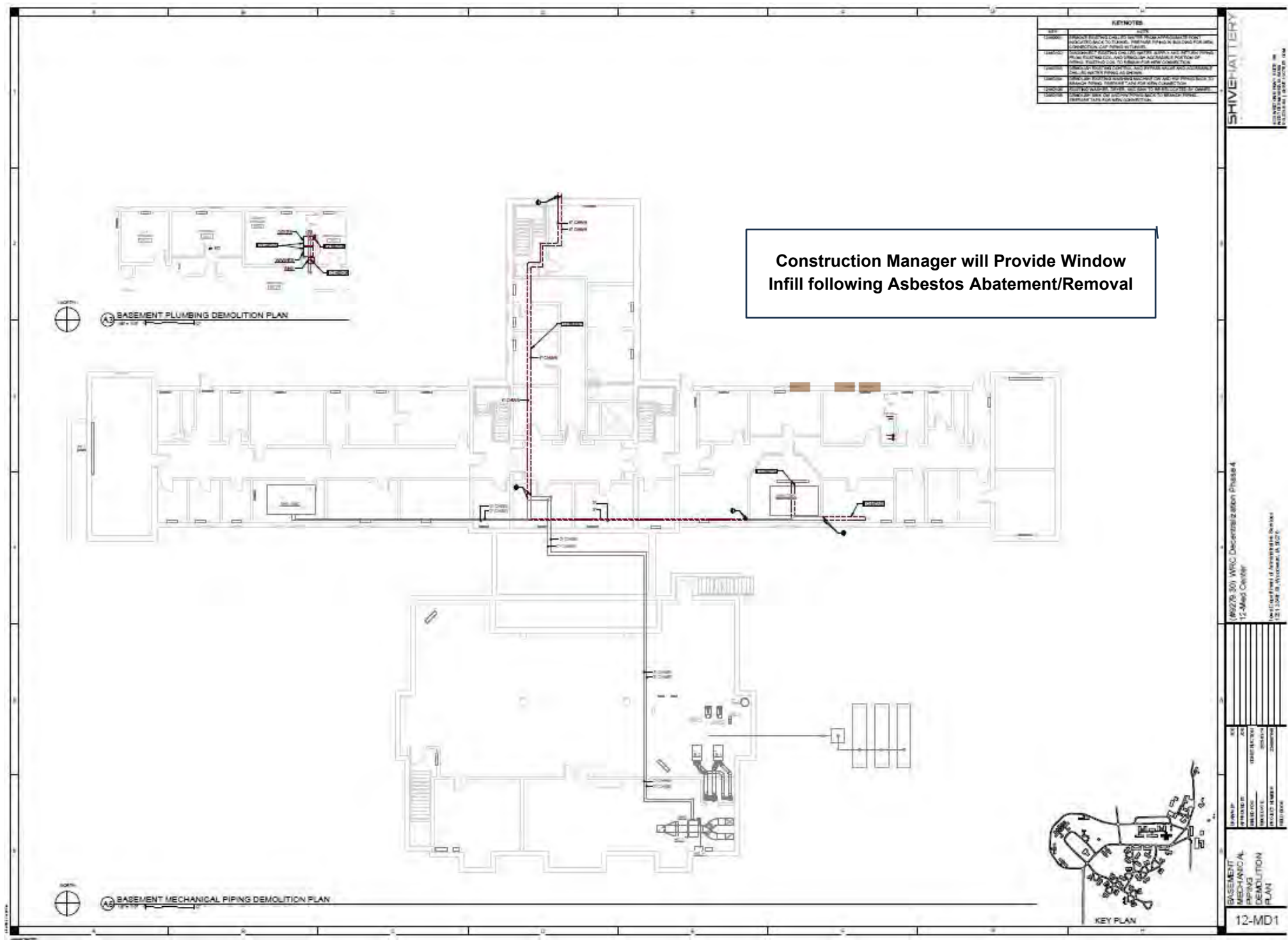
KEYNOTES	
1	SEE SHEET 10-MD02 FOR CONTIGUOUS WORK
2	WORK SHALL BE ACCORDING TO THE SPECIFICATIONS

SHIVE-HATTERY
 2000 WEST 10TH STREET, SUITE 100
 DES MOINES, IOWA 50319

PROJECT: 204BS07475-Task 2
 SHEET: 10-MD01
 DATE: 03/17/2025

NO.	REVISION	DATE
1	ISSUED FOR PERMIT	03/17/2025
2	ISSUED FOR CONSTRUCTION	03/17/2025

10-MD01



Construction Manager will Provide Window Infill following Asbestos Abatement/Removal

■ = Asbestos Containing Window Caulking

Project No. 204BS07475-Task 2	Date: March 17, 2025
Project Manager: Phillip Thomas	
Name: Basement Level	

ATLAS

11117 Mockingbird Drive
Omaha, NE 68137
PH. (402) 697-9747

Asbestos Containing Materials Locations

Medical Center Building
1251 334th Street
Woodward, IA 50276



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order: 042502819
Customer ID: ATC55
Customer PO:
Project ID:

Attention: Phil Thomas Atlas Technical 11117 Mockingbird Drive Omaha, Nebraska 68137	Phone: (402) 697-9747 Fax: (402) 597-8532 Received Date: 02/14/2025 9:30 AM Analysis Date: 02/15/2025 Collected Date:
Project: 204BS07475 - Woodward, Elmcrest Tunnel and Basement	

**Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E
Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
E-115 <small>042502819-0001</small>	ElmCrest, Basement	Gray	30% Min. Wool	70% Non-fibrous (Other)	None Detected
	Corridor B30 - Mudded Mech. Fitting	Fibrous Homogeneous			
E-116 <small>042502819-0002</small>	ElmCrest, Tunnel, outside Food Prep -	Gray	15% Cellulose	55% Non-fibrous (Other)	None Detected
	Mudded Mech. Fitting	Fibrous Homogeneous	30% Min. Wool		

Analyst(s)

Andrew Borsos (1)

Emilie Kalbach (1)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This 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. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, PA ID# 68-00367, LA #04127

Initial report from: 02/15/2025 13:03:46



Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North

Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
EMAIL: c@emsl.com

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

042502819

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information	Customer ID:	Billing ID:
	Company Name: Atlas Technical	Company Name: Atlas Technical
	Contact Name: Phil Thomas	Billing Contact: Accounting
	Street Address: 11117 Mockingbird Drive	Street Address: 11117 Mockingbird Drive
	City, State, Zip: Omaha NE 68114 Country: US	City, State, Zip: Omaha NE 68137 Country: US
	Phone: 402-697-9747	Phone: 402-697-9747
Email(s) for Report: phil.thomas@oneatlas.com		Email(s) for Invoice:

Project Information

Project Name/No: 204B507475 - Woodward, Elmcrest Tunnel - Basement Purchase Order:

EMSL LIMS Project ID: (If applicable, EMSL will provide)

US State where samples collected: NE State of Connecticut (CT) must select project location: Commercial (Taxable) Residential (Non-Taxable)

Sampled By Name: Sampled By Signature: No. of Samples in Shipment:

Turn-Around-Time (TAT)

3 Hour 4-4.5 Hour 6 Hour 24 Hour 32 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

TEM Air 3-4 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air

NIOSH 7400
 NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)

PLM EPA 600/R-93/116 (<1%)
 PLM EPA NOB (<1%)
 POINT COUNT
 400 (<0.25%) 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
 400 (<0.25%) 1,000 (<0.1%)
 NIOSH 9002 (<1%)
 NYS 198.1 (Friable - NY)
 NYS 198.6 NOB (Non-Friable - NY)
 NYS 198.8 (Vermiculite SM-V)

TEM - Air

AHERA 40 CFR, Part 763
 NIOSH 7402
 EPA Level II
 ISO 10312*

TEM - Bulk

TEM EPA NOB
 NYS NOB 198.4 (Non-Friable-NY)
 TEM EPA 600/R-93/116 w Milling Prep (0.1%)

TEM - Settled Dust

Microvac - ASTM D5756
 Wipe - ASTM D6480
 Qualitative via Filtration Prep
 Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*

PLM EPA 600/R-93/116 With milling prep (<0.25%)
 PLM EPA 600/R-93/116 With milling prep (<0.1%)
 TEM EPA 600/R-93/116 With milling prep (<0.1%)
 TEM Qualitative via Filtration Prep
 TEM Qualitative via Drop Mount Prep

Other Test (please specify)

*Please call with your project-specific requirements.

Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples) 0.8um 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
E-115	Muddled Mech. Fitting - ElmCrest, Basement Corridor B30		
E-116	L - ElmCrest, Tunnel outside Food Prep		

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment: Sample Condition Upon Receipt:

Relinquished by: *[Signature]* Date/Time: 2/13/2025 Received by: *[Signature]* EFX Date/Time: 2/14/25 9:30

Relinquished by: Date/Time: Received by: Date/Time:

Controlled Document - COC-05 Asbestos R15 4/23/2021 AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

PHILLIP THOMAS

DOB: 05-26-1976

Issued: 01-15-2025

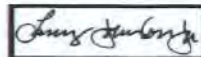


This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	25-12849	01-06-2026
PROJECT DESIGNER	25-12850	01-06-2026
MANAGEMENT PLANNER	25-12851	01-07-2026



Asbestos



**Larry Johnson, Jr.
Labor Commissioner**

**SECTION 02 4100
DEMOLITION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.

1.2 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section. See Division 01 for submittal procedures, quality requirements, alterations of work, and closeout requirements.

1.3 REFERENCE STANDARDS

- A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

PART 3 EXECUTION

2.1 DEMOLITION SCOPE

- A. Remove portions of the existing building as indicated on the drawings.
- B. Remove other items indicated, for salvage and relocation.

2.2 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with requirements in Division 01.
- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Comply with applicable requirements of NFPA 241.
 - 3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 4. Provide, erect, and maintain temporary barriers and security devices.
 - 5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 - 6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.

**WRC Birches, Powerhouse,
Elmcrest, & Med Center**

**Decentralization P4 & Fire Alarm
P3**

IDAS Project # 9279.40

SH Project # 2240007040

Issued for Construction

03-14-2025

Demolition

02 4100 - 1

7. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
 8. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
 9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.
- C. Do not begin removal until receipt of notification to proceed from Owner.
- D. Protect existing structures and other elements to remain in place and not to be removed.
1. Stop work immediately if adjacent structures appear to be in danger.
- E. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- F. Hazardous Materials:
1. If hazardous materials are discovered during removal operations, stop work and notify Architect/Engineer and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.
 2. Hazardous Materials: Comply with 29 CFR 1926 and state regulations.
- G. Accurately record locations of capped utilities and subsurface obstructions on the Contractor's record drawing set.

2.3 EXISTING UTILITIES

- A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

2.4 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
 1. Verify construction and utility arrangements are as indicated.
 2. Report discrepancies to Architect/Engineer before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

- B. Separate areas in which demolition is being conducted from areas that remain occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction.
- C. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.
- D. Remove existing work as indicated and required to accomplish new work.
 - 1. Remove items indicated on drawings.
- E. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - 3. Verify that abandoned services serve only abandoned facilities before removal.
 - 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.
- F. Protect existing work to remain.
 - 1. Prevent movement of structure. Provide shoring and bracing as required.
 - 2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch to match new work.

2.5 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

WRC Birches, Powerhouse, Elmcrest, & Med Center Decentralization P4 & Fire Alarm P3
IDAS Project # 9279.40
SH Project # 2240007040

**SECTION 03 3000
CAST-IN-PLACE CONCRETE**

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes interior concrete flatwork, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - 1. Slabs-on-grade.

1.2 REFERENCE STANDARDS

- A. AASHTO M 182 - Standard Specification for Burlap Cloth Made from Jute or Kenaf and Cotton Mats; 2005.
- B. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).
- C. ACI 301 - Specifications for Structural Concrete; 2016.
- D. ACI 302.1R - Guide to Concrete Floor and Slab Construction; 2015.
- E. ACI 305R - Guide to Hot Weather Concreting; 2010.
- F. ACI 306R - Guide to Cold Weather Concreting; 2016.
- G. ACI 308R - Guide to External Curing of Concrete; 2016.
- H. ACI 347R - Guide to Formwork for Concrete; 2014, with Errata (2017).
- I. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2018a.
- J. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2020.
- K. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete; 2013.
- L. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete; 2012.
- M. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens); 2021.
- N. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2020.
- O. ASTM C150/C150M - Standard Specification for Portland Cement; 2021.
- P. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2016.
- Q. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete; 2017.
- R. ASTM C219 - Standard Terminology Relating to Hydraulic Cement; 2014.

WRC Birches, Powerhouse,

Elmcrest, & Med Center

Decentralization P4 & Fire Alarm

P3

IDAS Project # 9279.40

SH Project # 2240007040

Issued for Construction

03-14-2025

Cast-In-Place Concrete

03 3000 - 1

- S. ASTM C231/C231M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method; 2014.
- T. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2019.
- U. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field; 2021a.
- V. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2018.
- W. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2018.
- X. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2019.
- Y. ASTM C595/C595M - Standard Specification for Blended Hydraulic Cements; 2021.
- Z. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2019.
- AA. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2020a.
- BB. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2020.
- CC. ASTM D1709 - Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method; 2016a, with Editorial Revision (2017).
- DD. ASTM E1155 - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers; 2014.
- EE. AWS D1.4/D1.4M - Structural Welding Code - Steel Reinforcing Bars; 2018, with Amendment.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- 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, tie spacing, hoop spacing, and supports for concrete reinforcement.
- D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
 - 1. Location of construction joints is subject to approval of the Architect.

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.
 - 7. Adhesives.
 - 8. Joint-filler strips.
 - 9. Repair materials.
- B. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Aggregates. Include test results per ASTM C295 indicating aggregate is free of materials with deleterious reactivity to alkali in cement.
- C. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.
- D. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C1077 and ASTM E329 for testing indicated.
 - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
 - 2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- D. 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.
- E. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D1.4M, "Structural Welding Code - Reinforcing Steel."

- F. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
 - 1. ACI 301, "Specifications for Structural Concrete, Sections 1 through 5.
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

PART 2 PRODUCTS

2.1 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, or other approved panel materials.
- B. 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.
- C. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- D. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- E. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- F. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- G. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, will 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.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed.
- B. Plain-Steel Welded Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from as-drawn steel wire into flat sheets.

2.3 REINFORCEMENT ACCESSORIES

- A. 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. Supporting reinforcement on clay brick supports is not acceptable.

2.4 CONCRETE MATERIALS

- A. Cementitious Material: Use one of the following cementitious materials, of the same type, brand, and source, throughout Project:
1. Portland Cement: ASTM C150/C150M, Type I/II, gray Supplement with the following at contractor's option:
 - a. Fly Ash: ASTM C618, Class F or Class C.
 - b. CarbonCure: www.carboncure.com or Engineer pre-approved equivalent.
 2. Blended Hydraulic Cement: ASTM C595/C595M, Type IL, portland-limestone cement.
 - a. Fly Ash: ASTM C618, Class F or Class C.
- B. Normal-Weight Aggregates: ASTM C33/C33M, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
1. Maximum Coarse-Aggregate Size: 1 inch nominal.
 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement. For slabs-on-grade or concrete exposed to view, use fine aggregate with a proven history of not being susceptible to popouts, use imported sand if necessary.
- C. Water: ASTM C94/C94M and potable.

2.5 ADMIXTURES

- A. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will 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 C494/C494M, Type A.
 2. Retarding Admixture: ASTM C494/C494M, Type B.
 3. Water-Reducing and Retarding Admixture: ASTM C494/C494M, Type D.
 4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C494/C494M, Type G.
 6. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.

2.6 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
- C. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.
 - 1. Manufacturers: Subject to compliance with requirements, provide the following:
 - a. Anti-Hydro International, Inc.; AH Clear Cure WB.
 - b. BASF Construction Chemicals - Master Builders Solutions; MasterKure CC 160 WB.
 - c. ChemMasters; Safe-Cure & Seal 309.
 - d. Cresset Chemical Company; Crete-Trete 309-VOC Cure & Seal.
 - e. Dayton Superior Corporation; Cure & Seal 309 J18.
 - f. Euclid Chemical Company (The); Aqua Cure VOX.
 - g. Kaufman Products, Inc.; Krystal 15 Emulsion.
 - h. Laticrete International, Inc.; L&M Dress & Seal WB.
 - i. Meadows, W. R., Inc.; Vocomp-20.
 - j. Metalcrete Industries; Metcure.
 - k. Nox-Crete Products Group; Cure & Seal 150E.
 - l. Vexcon Chemicals, Inc.; Starseal 309.
 - m. Or Engineer pre-approved equivalent.

2.7 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: Flexible, closed-cell polyethylene with tear off strip for sealant installation.
- B. Epoxy Bonding Adhesive: ASTM C881/C881M, 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 IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

2.8 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C150/C150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 4100 psi at 28 days when tested according to ASTM C109/C109M.

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.
 1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 1. Fly Ash: 25 percent.
 2. CarbonCure: CarbonCure injected carbon dioxide system is permitted at contractor's option to reduce Portland cement content by up to 3%. CarbonCure shall be added to the mix using the CarbonCure delivery system. The delivery shall be provided and calibrated by CarbonCure and integrated into the PCC plant batching system. The reduction is for Portland cement only and is determined after substitution of fly ash has occurred. Blended cements are to be considered cement when determining Portland cement reductions.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.
- D. Admixtures: Use admixtures according to manufacturer's written instructions.
 1. Use water-reducing or high-range water-reducing 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 water-cementitious materials ratio below 0.50.

2.10 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:
 1. Minimum Compressive Strength: 4000 psi at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 0.45.
 3. Slump Limit: Concrete mix shall be proportioned to achieve a maximum slump of 9" for concrete containing high range water reducing admixture, 6" for concrete containing a mid-range water reducing admixture, or 4" for other concrete. All mixes shall have a water slump of 2" to 3".
 4. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.

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 C94/C94M and ASTM C1116/C1116M, and furnish batch ticket information.
 - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, 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.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
 - 1. Class A, 1/8 inch for smooth-formed finished surfaces.
 - 2. Class B, 1/4 inch for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate 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. Chamfer exterior corners and edges of permanently exposed concrete.
- 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 ITEMS

- 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's "Code of Standard Practice for Steel Buildings and Bridges."

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. Concrete must 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 supports 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 will not be 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 unless approved by Architect.

3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 - 1. Do not cut or puncture vapor barrier. Repair damage and reseal vapor barrier before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
 - 1. Weld reinforcing bars according to AWS D1.4/D1.4M, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. 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.

3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete; match existing jointing.
- 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. Space vertical joints in walls at distance needed for construction sequencing. 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 wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- 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. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
 - 2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Division 07 section "Joint Sealants," are indicated.
 - 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

3.6 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be 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 to not 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.

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 inch 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.
- E. Cold-Weather Placement: Comply with ACI 306R 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.
- F. Hot-Weather Placement: Comply with ACI 301 and ACI 305R and as follows:
1. Maintain concrete temperature below 90 deg F 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.

3.7 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. Apply to concrete surfaces not exposed to public view.
- 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 covered with a coating or covering material applied directly to concrete.

- C. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:
 - 1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
- D. 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.

3.8 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, 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. Straighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
 - 1. Apply float finish to surfaces to receive trowel finish or to be covered with fluid-applied or sheet waterproofing, built up or membrane roofing.
- C. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and straighten 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 exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
 - 2. Finish surfaces to the following tolerances, according to ASTM E1155, for a randomly trafficked floor surface:
 - a. Specified overall values of flatness, F(F) 35; and of levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 17; for slabs-on-grade.
 - 3. Remedies for out-of-tolerance work:
 - a. Minimum local values measuring at or above all specified minimum local values F-numbers shall be accepted for tolerance compliance as constructed.
 - b. Where minimum local values are measured to be below the specified F-numbers one of the following actions shall be performed. In all cases, the particular method of correction shall be determined solely by the Owner.
 - 1) The area within the boundaries of the minimum local area shall be removed and replaced and the area retested per ASTM E1155 to show tolerance compliance.
 - 2) The area within the boundary shall be repaired by grinding or depression-and-retopping of the entire minimum local area and the area retested per ASTM E1155 to show tolerance compliance.
- D. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and 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/Engineer before application.

3.9 MISCELLANEOUS CONCRETE ITEMS

- 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 inch high unless otherwise indicated; and extend base not less than 6 inch in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated.
 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. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.

3.10 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306R for cold-weather protection and ACI 301 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 the remainder of the 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 308R, by one or a combination of the following methods:
 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12 inch lap over adjacent absorptive covers.

2. **Moisture-Retaining-Cover Curing:** Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inch, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. **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 repair damage during curing period.
 - a. **Removal:** After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.
4. **Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.**
5. **Cure concrete surfaces to receive floor coverings with either a moisture cure, a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.**

3.11 JOINT FILLING

- A. **Prepare, clean, and install joint filler according to manufacturer's written instructions.**
 1. **Defer joint filling until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.**
- B. **Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.**

3.12 CONCRETE SURFACE REPAIRS

- A. **Defective Concrete:** Repair and patch defective areas when approved by Architect/Engineer. Remove and replace concrete that cannot be repaired and patched to Architect/Engineer's approval.
- B. **Patching Mortar:** Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half 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 in any dimension to solid concrete. Limit cut depth to 3/4 inch. 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 will match 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/Engineer.
- 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 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 receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. 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 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.
 6. Repair defective areas, except random cracks and single holes 1 inch 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 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.
 7. Repair random cracks and single holes 1 inch 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/Engineer's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect/Engineer's approval.

3.13 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

- B. Inspections:
1. Steel reinforcement placement.
 2. Steel reinforcement welding.
 3. Headed bolts and studs.
 4. Verification of use of required design mixture.
 5. Concrete placement, including conveying and depositing.
 6. Curing procedures and maintenance of curing temperature.
 7. 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 C172/C172M shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.
 - a. When frequency of testing will provide 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 C143/C143M; 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 C231/C231M, 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 C1064/C1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
 5. Compression Test Specimens: ASTM C31/C31M.
 - a. Cast and laboratory cure two sets of two standard 6 inch by 12 inch cylinder specimens for each composite sample or two sets of three standard 4 inch by 8 inch cylinder specimens for each composite sample.
 6. Compressive-Strength Tests: ASTM C39/C39M; test one set of laboratory-cured specimens at 7 days and one set of specimens at 28 days.
 - a. A compressive-strength test shall be the average compressive strength from a set of two specimens for 6 in by 12 inch cylinders or three specimens for 4 inch by 8 inch cylinders obtained from same composite sample and tested at age indicated.
 7. 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.

8. Test results shall be reported in writing to Architect/Engineer, 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.
 9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect/Engineer but will not be used as sole basis for approval or rejection of concrete.
 10. 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/Engineer. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42 or by other methods as directed by Architect/Engineer.
 11. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
 12. 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 E1155 within 72 hours of finishing.

END OF SECTION

WRC Birches, Powerhouse, Elmcrest, & Med Center Decentralization P4 & Fire Alarm P3
IDAS Project # 9279.40
SH Project # 2240007040

**SECTION 04 2000
UNIT MASONRY**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete Masonry Units.
- B. Clay Facing Brick.
- C. Mortar and Grout.
- D. Reinforcement and Anchorage.
- E. Flashings.
- F. Accessories.

1.2 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- B. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2020a.
- C. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2020.
- D. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire; 2019.
- E. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement; 2016, with Editorial Revision (2018).
- F. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2018a.
- G. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units; 2017.
- H. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2018.
- I. ASTM C150/C150M - Standard Specification for Portland Cement; 2021.
- J. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale); 2019.
- K. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019a.
- L. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2016.
- M. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017.
- N. ASTM D4637/D4637M - Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane; 2015 (Reapproved 2021).

WRC Birches, Powerhouse,

Elmcrest, & Med Center

Decentralization P4 & Fire Alarm

P3

IDAS Project # 9279.40

SH Project # 2240007040

Issued for Construction

03-14-2025

Unit Masonry

04 2000 - 1

- O. BIA Technical Notes No. 7 - Water Penetration Resistance – Design and Detailing; 2017.
- P. BIA Technical Notes No. 13 - Ceramic Glazed Brick Exterior Walls; 2017.
- Q. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.3 SUBMITTALS

- A. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, masonry accessories, anchors, and flashings.
- B. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.1 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 x 8 inches and nominal depth of 8 inches.
 - 2. Non-Loadbearing Units: ASTM C129.
 - a. Hollow block, as indicated.

2.2 BRICK UNITS

- A. Clay Facing Brick: Provided by Owner from existing stock.

2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.
- B. Mortar Aggregate: ASTM C144.
- C. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979.
 - 1. Color(s): Match mortar on existing adjacent wall.
- D. Water: Clean and potable.
- E. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
- F. Moisture-Resistant Admixture: Water repellent compound designed to reduce capillarity.
 - 1. Manufacturer:
 - a. BASF; MasterPel 210D: HL#1101432.
 - b. Euclid Chemical Co.; Blocktite Mortar Admixture: www.euclidchemical.com.

- c. Krete Industries, Inc.; Krete Gard Mortar Mix: www.krete.com.
- d. Architect pre-approved equivalent.

2.4 REINFORCEMENT AND ANCHORAGE

- A. Manufacturers of Joint Reinforcement and Anchors:
 - 1. Blok-Lok Limited: www.blok-lok.com/#sle.
 - 2. Hohmann & Barnard, Inc; X-Seal Anchor: www.h-b.com/#sle.
 - 3. WIRE-BOND; www.wirebond.com/#sle.
 - 4. Architect pre-approved equivalent.
- B. Reinforcing Steel: ASTM A615/A615M, Grade 60 - 60,000 psi, deformed billet bars; uncoated.
- C. Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved and truss type elsewhere, unless otherwise indicated.
- D. Single Wythe Joint Reinforcement: ASTM A951/A951M.
 - 1. Type: Truss or ladder.
 - 2. Material: ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to ASTM A153/A153M Class B.
 - 3. Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.
- E. Adjustable Multiple Wythe Joint Reinforcement: ASTM A951/A951M.
 - 1. Type: Truss, with adjustable ties or tabs spaced at 16 in on center.
 - 2. Material: ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to ASTM A153/A153M Class B.
 - 3. Size: 0.1875 inch side rods with 0.1483 inch cross rods and adjustable components of 0.1875 inch wire, width of components as required to provide not less than 5/8 inch of mortar coverage from each masonry face.
 - 4. Vertical adjustment: Not more than 1 1/4 inches.
- F. Masonry Veneer Anchors: 2-piece anchors that permit differential movement between masonry veneer and structural backup, hot dip galvanized to ASTM A153/A153M Class B.
 - 1. Anchor plates: Not less than 0.075 inch thick, designed for fastening to structural backup through sheathing by two fasteners; provide design with legs that penetrate sheathing and insulation to provide positive anchorage.
 - 2. Wire ties: Manufacturer's standard shape, 0.1875 inch thick.
 - 3. Vertical adjustment: Not less than 3-1/2 inches.

2.5 FLASHINGS

- A. Copper/Polymer Fabric Flashing: 3 oz/sq ft copper sheet laminated between two sheets of polymer or fiberglass fabric.
 - 1. Manufacturer:
 - a. Advanced Building Products, Inc.; Copper Sealtite 2000: www.advancedbuildingproducts.com/#sle.

- b. Architect pre-approved equivalent.
- B. Membrane Non-Asphaltic Flashing Materials:
 - 1. Composite Polymer Flashings - Self-Adhering: Composite polyethylene; 40 mil thick with pressure-sensitive adhesive and release paper.
- C. EPDM Flashing: ASTM D4637, Type I, 0.040 inch thick.
- D. Factory-Fabricated Flashing Corners and Ends: Stainless steel.
 - 1. Manufacturers:
 - a. Hohmann & Barnard, Inc: www.h-b.com/#sle.
 - b. York Manufacturing, Inc: www.yorkmfg.com/#sle.
 - c. Architect pre-approved equivalent.
- E. Termination Bars: Stainless steel; compatible with membrane and adhesives.
- F. Drip Edge: Stainless steel; angled drip with hemmed edge; compatible with membrane and adhesives.
- G. Lap Sealants and Tapes: As recommended by flashing manufacturer; compatible with membrane and adhesives.

2.6 ACCESSORIES

- A. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
 - 1. Mortar Diverter: Semi-rigid mesh designed for installation at flashing locations.
 - a. Manufacturers:
 - 1) Advanced Building Products Inc; Mortar Break
DT: www.advancedbuildingproducts.com/#sle.
 - 2) Mortar Net Solutions; MortarNet: www.mortarnet.com/#sle.
 - 3) York Manufacturing, Inc Weep-Net: www.yorkmfg.com/#sle.
 - 4) Architect pre-approved equivalent.
 - 2. Bond Breaker Strips: ASTM D226/D226M, Type I ("No.15") asphalt felt.
- B. Weeps: Cotton rope.
- C. Cavity Vents:
 - 1. Type: Molded PVC grilles, insect resistant, UV-resistant, full height and width of head joints and depth; 1/8" less than depth of outer wythe.
 - 2. Color: As selected by Architect/Engineer from manufacturer's full range.
- D. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.
- E. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

2.7 MORTAR AND GROUT MIXES

- A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
 - 1. For all concrete masonry, use Type S.

2. For all clay brick, use Type N.
- B. Grout: ASTM C476. Consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive masonry.

3.2 COLD AND HOT WEATHER REQUIREMENTS

- A. Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

3.3 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
 1. Bond: As indicated for different locations.
 2. Coursing: One unit and one mortar joint to equal 8 inches.
 3. Mortar Joints: Concave.
- D. Brick Units:
 1. Bond: Running.
 2. Coursing: Three units and three mortar joints to equal 8 inches or as required to match existing.
 3. Mortar Joints: Concave.

3.4 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- D. Remove excess mortar and mortar smears as work progresses.
- E. Remove excess mortar with water repellent admixture promptly. Do not use acids, sandblasting or high pressure cleaning methods.
- F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- G. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.5 WEEPS/CAVITY VENTS

- A. Install weeps in veneer and cavity walls at 24 inches on center horizontally above through-wall flashing, above shelf angles and lintels, and at bottom of walls.
- B. Install cavity vents in veneer and cavity walls at 32 inches on center horizontally below shelf angles and lintels and near top of walls.

3.6 CAVITY MORTAR CONTROL

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.

3.7 REINFORCEMENT AND ANCHORAGE - GENERAL

- A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.

3.8 REINFORCEMENT AND ANCHORAGES - MULTIPLE WYTHE UNIT MASONRY

- A. Use individual metal ties installed in horizontal joints to bond wythes together. Provide ties spaced at 16" on center.
- B. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.

3.9 MASONRY FLASHINGS

- A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
- B. Install flashing in accordance with manufacturer's instructions and BIA Technical Notes No. 7.
- C. Extend metal flashings to within 1/4 inch of exterior face of masonry.
- D. Lap end joints of flashings at least 6 inches and seal watertight with mastic or elastic sealant.

3.10 CLEANING AND REPAIR

- A. Remove excess mortar, mortar smears and mortar droppings.
- B. Replace defective mortar. Match adjacent work in color and joint profile.
- C. Clean soiled surfaces with cleaning solution. Protect adjacent or dissimilar materials from damage from cleaning activities.
- D. Use non-metallic tools in cleaning operations.

END OF SECTION

**SECTION 05 7500
METAL CONVECTOR CABINET COVERS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Interior fabrications made of formed metal sheet, secondary supports as required, and anchors to structure, including:
 - 1. Custom fabricated replacement convector covers to match existing.

1.2 RELATED REQUIREMENTS

- A. Section 09 9123 - Interior Painting.

1.3 SUBMITTALS

- A. Shop Drawings: Show layout and elevations, dimensions and thickness of panels, connections, details and location of joints, sealants and gaskets, method of anchorage, number of anchors, supports, reinforcement, trim, and accessories.
 - 1. Show actual field measurements on shop drawings.
 - 2. Differentiate between shop and field fabrication.
 - 3. Indicate substrates and adjacent work with which the fabrications must be coordinated.
 - 4. Include large-scale details of anchorages and connecting elements.
- B. Maintenance Data: Care of finishes and warranty requirements.

1.4 QUALITY ASSURANCE

- A. Mock-Up: Provide a mock-up for evaluation of fabrication workmanship.
 - 1. Locate where directed.
 - 2. Provide products finished as specified.
 - 3. Mock-up may remain as part of the Work.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 1. Protect finishes by applying heavy duty removable plastic film during production.
 - 2. Package for protection against transportation damage.
 - 3. Provide markings to identify components consistently with drawings.
 - 4. Exercise care in unloading, storing and installing panels to prevent bending, warping, twisting and surface damage.

**WRC Birches, Powerhouse,
Elmcrest, & Med Center**

**Decentralization P4 & Fire Alarm
P3**

IDAS Project # 9279.40

SH Project # 2240007040

**Issued for Construction
03-14-2025**

**Metal Convector Cabinet Covers
05 7500 - 1**

- B. Store products protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
 - 1. Store in well-ventilated space out of direct sunlight.
 - 2. Protect from moisture and condensation with tarpaulins or other suitable weathertight covering installed to provide ventilation.
 - 3. Do not store in enclosed space where ambient temperature can exceed 120 degrees F.
 - 4. Avoid contact with other materials that might cause staining, denting, or other surface damage.

PART 2 PRODUCTS

2.1 FABRICATORS

- A. Custom Fabricated Replacement Convectector Covers:
 - 1. HVAC Custom Enclosure, LLC; Convectector Radiator Custom Enclosure: www.hvaccustomenclosure.com.
 - 2. AirFlex Industries, Inc; Custom Radiator Covers Enclosure: www.architecturalgrilles.airflexind.com.
 - 3. Wenig Co; Architectural Metals and Custom Enclosure Components: www.wenigco.com.
 - 4. Architect pre-approved equivalent.

2.2 FORMED METAL FABRICATIONS - GENERAL

- A. Shop Assembly: Preassemble items to greatest extent possible. Minimize field splices and field assembly. Disassemble only as necessary for transportation and handling. Mark items clearly for assembly and installation.
- B. Coordination: Match dimensions and attachment of formed metal items to adjacent construction. Produce integrated assemblies. Closely fit joints; align edges and flat surfaces unless indicated otherwise.
- C. Forming: Profiles indicated to match existing; maximize lengths. Fold exposed edges to form hem indicated or ease edges to radius indicated with concealed stiffener. Provide flat, flush surfaces without cracking or grain separation at bends.
- D. Reinforcement: Increase metal thickness; use concealed stiffeners, backing materials or both. Provide stretcher leveled standard of flatness and stiffness required to maintain flatness and hold adjacent items in flush alignment.
- E. Anchors: Straps, plates and anchors as required to support and anchor items to adjacent construction.
- F. Supports: Miscellaneous framing, mounting, clips, sleeves, fasteners and accessories required for installation.
- G. Welding and Brazing: Weld or braze joints continuously. Grind, fill or dress to produce smooth, flush, exposed surfaces. Do not discolor metal. Grind smooth, polish, and restore damaged finishes to required condition.
- H. Profile and size: Refer to drawings for profile and dimensions to match existing; verify in field.

2.3 MATERIALS

- A. General: Provide sheet metal without pitting, seam marks, roller marks, stains, discolorations, or other imperfections exposed to view on finished units. Cabinet covers to be fabricated from 18 ga. galvanized steel.
- B. Fasteners, General: Same basic metal and alloy as formed metal sheet unless indicated otherwise. Do not use metals incompatible with the materials joined.

2.4 PAINTS AND COATINGS

- A. As specified in Section 09 9123.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify dimensions, tolerances, and interfaces with other work.
- B. Verify substrate on-site to determine that conditions are acceptable for product installation in accordance with manufacturer's written instructions.
- C. If substrate preparation is the responsibility of another installer, notify Architect/Engineer of unsatisfactory preparation before proceeding.
- D. Notify Architect/Engineer in writing of conditions detrimental to proper and timely completion of work. Do not proceed with erection until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect adjacent work areas and finish surfaces from damage during installation.

3.3 INSTALLATION - CUSTOM METAL FABRICATIONS

- A. Do not install products that are defective, including warped, bowed, dented, and broken members, and members with damaged finishes.
- B. Comply with instructions and recommendations of manufacturer and fabricator, and with approved shop drawings.
- C. Install securely allowing for necessary thermal and structural movement; comply with fabricator's instructions for installation of concealed fasteners.
- D. Do not handle or tool products during erection in manner that damages finish, decreases strength, or results in visual imperfection or failure in performance. Return component parts that require alteration to shop for refabrication, if possible, or for replacement with new parts.
- E. Do not form panels in field unless required by fabricator and approved by the Architect/Engineer; comply with manufacturer's instructions and recommendations for field forming.
- F. Separate dissimilar metals; use gasket fasteners, isolation shims, or isolation tape where needed to eliminate possibility of electrolytic action between metals.
- G. Install square, plumb, straight, and true, accurately fitted, with tight joints and intersections maintaining the following installation tolerances:
 - 1. Variation From Plane or Location: 1/2 inch in 30 feet of length and up to 3/4 inch in 300 feet, maximum.

2. Deviation of Vertical Member from True Line: 1/8 inch in 25 feet run, maximum.
 3. Deviation of Horizontal Member from True Line: 1/8 inch in 25 feet run, maximum.
 4. Offset From True Alignment Between Two Adjacent Members Abutting End To End, In Line: 1/32 inch, maximum.
- H. Replace damaged products.
1. Exception: Field repairs of minor damage to finishes are permitted only when approved in writing by Architect/Engineer, panel manufacturer, and fabricator.
 2. Field Repairs to Finishes: Using materials and methods sufficient that repairs are not discernible when viewed at distance of 10 feet under typical light conditions experienced at project.

3.4 CLEANING

- A. Restore finishes damaged during installation and construction period. Return items that cannot be refinished in the field to manufacturer or fabricator. Refinish entire unit or provide new units.
- B. Remove protective film after installation of joint sealers, after cleaning of adjacent materials, and immediately prior to completion of work.
- C. Remove temporary coverings and protection of adjacent work areas.
- D. Clean installed products in accordance with manufacturer's instructions.

3.5 PROTECTION

- A. Protect installed products from damage during construction.

END OF SECTION

**SECTION 06 1000
ROUGH CARPENTRY**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Nonstructural dimension lumber framing.
- B. Fire retardant treated wood materials.
- C. Communications and electrical room mounting boards.
- D. Concealed wood blocking, nailers, and supports.

1.2 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2022.
- C. AWPA U1 - Use Category System: User Specification for Treated Wood; 2022.
- D. PS 1 - Structural Plywood; 2009 (Revised 2019).
- E. PS 2 - Performance Standard for Wood Structural Panels; 2018.
- F. PS 20 - American Softwood Lumber Standard; 2021.
- G. SPIB (GR) - Standard Grading Rules; 2021.

1.3 SUBMITTALS

- A. Product Data: Provide technical data on fire-retardant treatment materials.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, and installation.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.

**WRC Birches, Powerhouse,
Elmcrest, & Med Center**

**Decentralization P4 & Fire Alarm
P3**

**IDAS Project # 9279.40
SH Project # 2240007040**

**Issued for Construction
03-14-2025**

**Rough Carpentry
06 1000 - 1**

2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 1. Lumber: S4S, No. 2 or Standard Grade.
 2. Boards: Standard or No. 3.
 3. Fire Retardant Treated.

2.3 CONSTRUCTION PANELS

- A. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.
 1. Fire Retardant Treated.

2.4 ACCESSORIES

- A. Fasteners and Anchors:
 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
 3. Anchors: Toggle bolt type for anchorage to hollow masonry.

2.5 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
- B. Fire Retardant Treatment:
 1. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.

- b. Interior rough carpentry items are to be fire retardant treated.
- c. Treat rough carpentry items as indicated.
- d. Do not use treated wood in applications exposed to weather or where the wood may become wet.

PART 3 EXECUTION

3.1 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.

3.2 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. 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.
- C. Provide the following specific nonstructural framing and blocking:
 - 1. Wall brackets.
 - 2. Wall-mounted door stops.
 - 3. Wall paneling and trim.
 - 4. Blocking at wall openings.

3.3 INSTALLATION OF CONSTRUCTION PANELS

- A. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
 - 1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
 - 2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
 - 3. Install adjacent boards without gaps.

3.4 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Variation from Plane, Other than Floors: 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.5 CLEANING

- A. Waste Disposal:
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.
- B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

**SECTION 07 4243
METAL WINDOW PANELS**

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Metal Window Infill Panels for exterior.

1.2 REFERENCE STANDARDS

- A. ASTM E330-84: Structural Performance of Exterior Windows, Curtain Walls and Doors under the influence of wind loads.
- B. ASTM D1781-76: Climbing Drum Peel Test for Adhesives.
- C. ASTM D3363-74: Method for Film Hardness by Pencil Test.
- D. ASTM D2794-90: Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
- E. ASTM D3359-90: Method for Measuring Adhesion by the tape test.

1.3 SUBMITTALS

- A. Product Data: Provide data on system materials, product characteristics, performance criteria, and system limitations.
- B. Shop Drawings: Indicate thickness, dimension and components of parts. Detail glazing methods, framing and tolerances to accommodate thermal movement.
- C. Samples: Submit manufacturer's standard range of physical samples illustrating available coating colors and textures.
- D. Samples: Submit (2) samples of 10" x 10" of each color and finish texture.
- E. Warranty: Submit Manufacturer's warranty and ensure that forms have been completed in the Owner's name and registered with manufacturer.

1.4 QUALITY ASSURANCE

- A. Panel manufacturer shall have a minimum of 10 years' experience.
- B. Field measurements shall be taken prior to completion of manufacturing and cutting.
- C. Maximum deviation from vertical and horizontal alignment of installed panels is 1/8" (3mm) in 20' (6m) non-commutative.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Protect finish and edge in accordance with panel manufacturer's recommendations.
- B. Store materials in accordance with panel manufacturer's recommendations.

1.6 WARRANTY

- A. Manufacturer's Standard Warranty.

**WRC Birches, Powerhouse,
Elmcrest, & Med Center**

**Decentralization P4 & Fire Alarm
P3**

**IDAS Project # 9279.40
SH Project # 2240007040**

**Issued for Construction
03-14-2025**

**METAL WINDOW PANELS
07 4243 - 1**

PART 2 - PRODUCTS

2.1 BASIS OF DESIGN

- A. Laminated metal faced Mapes-R Infill panels as manufactured by Mapes Industries, Inc. or Architect pre-approved equivalent.

2.2 PRODUCTS

- A. Mapes-R Panels
 1. Panel Thickness: 1"
 2. Exterior Finish: Smooth Standard Kynar Finish on Aluminum
 3. Exterior Substrate: 0.125" Solid Plastic
 4. Insulating Core: Polyisocyanurate; R-value of 6.41 per inch
 5. Interior Substrate: 0.125" Solid Plastic
 6. Interior Finish: Smooth Primed Aluminum
 7. Colors: Selected by Architect.

2.3 ACCESSORIES

- A. Related trim/frame material to complete installation as recommended by the manufacturer for use as an infill panel component.
- B. Seal against moisture intrusion as recommended by the manufacturer. Polyurethane and silicone based sealant with a 20 year life are recommended.
- C. Molding Profiles: As shown on drawings & as required for complete weathertight installation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Panel surfaces shall be free from defects prior to installation.

3.2 EXECUTION

- A. Erect panels plumb, level and true.
- B. Glaze panels securely and in accordance with approved shop drawings and manufacturer's instructions to allow for necessary thermal movement and structural support.
- C. Do not install panels that are observed to be defective including warped, bowed, dented, scratched and delaminating components.
- D. Weatherseal all joints as required using methods and materials as previously specified.
- E. Separate dissimilar metals using gasketed fasteners and blocking to eliminate the possibility of electrolytic reaction.

3.3 ADJUSTING AND CLEANING

- A. Remove masking film as soon as possible after installation. Masking intentionally left in place after panel installation will be the responsibility of the contractor.
- B. Weep holes and drainage channels must be unobstructed and free from dirt and sealant.

END OF SECTION

WRC Birches, Powerhouse, Elmcrest, & Med Center Decentralization P4 & Fire Alarm P3
IDAS Project # 9279.40
SH Project # 2240007040

**SECTION 07 8100
APPLIED FIRE PROTECTION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Applied fire protection of interior structural steel not exposed to damage or moisture.
- B. Applied fire protection of structural steel exposed to damage or moisture.
- C. Preparation of applied fire protection for application of exposed overcoat finish specified elsewhere.

1.2 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2022.
- B. ASTM E736/E736M - Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members; 2019 (Reapproved 2023).
- C. ASTM E760/E760M - Standard Test Method for Effect of Impact on Bonding of Sprayed Fire-Resistive Material Applied to Structural Members; 1992 (Reapproved 2023).
- D. ASTM E859/E859M - Standard Test Method for Air Erosion of Sprayed Fire-Resistive Materials (SFRMs) Applied to Structural Members; 2023.
- E. ASTM E937/E937M - Standard Test Method for Corrosion of Steel by Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members; 1993 (Reapproved 2023).
- F. UL (FRD) - Fire Resistance Directory; Current Edition.

1.3 SUBMITTALS

- A. Product Data: Provide data indicating product characteristics.

1.4 FIELD CONDITIONS

- A. Do not apply fireproofing when temperature of substrate material and surrounding air is below 40 degrees F or when temperature is predicted to be below said temperature for 24 hours after application.
- B. Provide ventilation in areas to receive fireproofing during application and 24 hours afterward, to dry applied material.
- C. Provide temporary enclosure to prevent spray from contaminating air.

1.5 WARRANTY

- A. Correct defective Work within a two year period after Date of Substantial Completion.
 - 1. Include coverage for fireproofing to remain free from cracking, checking, dusting, flaking, spalling, separation, and blistering.
 - 2. Reinstall or repair failures that occur within warranty period.

**WRC Birches, Powerhouse,
Elmcrest, & Med Center**

**Decentralization P4 & Fire Alarm
P3**

IDAS Project # 9279.40

SH Project # 2240007040

**Issued for Construction
03-14-2025**

**Applied Fire Protection
07 8100 - 1**

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Applied Fire Protection:

1. GCP Applied Technologies: www.gcpat.com/#sle.
2. Isolatek International Corp: www.isolatek.com/#sle.
3. Southwest Fireproofing Products Company: www.sfrm.com/#sle.
4. Architect pre-approved equivalent.

2.2 APPLIED FIRE PROTECTION ASSEMBLIES

- #### **A. Provide fire resistance ratings to provide 1-hour rating at ceiling/floor where indicated on drawings.**

2.3 MATERIALS

A. Applied Fire Protection Material: Manufacturer's standard factory mixed material, which when combined with water is capable of providing indicated fire resistance, and complying with following requirements:

1. Bond Strength: 150 pounds per square foot, minimum, when tested in accordance with ASTM E736/E736M when set and dry.
2. Dry Density: As required by fire resistance design.
3. Compressive Strength: 8.33 pounds per square inch, minimum.
4. Effect of Impact on Bonding: No cracking, spalling or delamination, when tested in accordance with ASTM E760/E760M.
5. Corrosivity: No evidence of corrosion, when tested in accordance with ASTM E937/E937M.
6. Air Erosion Resistance: Weight loss of 0.025 g/sq ft, maximum, when tested in accordance with ASTM E859/E859M after 24 hours.
7. Surface Burning Characteristics: Maximum flame spread index of 0 (zero) and maximum smoke developed index of 0 (zero), when tested in accordance with ASTM E84.

B. Applied Fire Protection Material Exposed to Damage or Moisture: Manufacturer's standard factory mixed material, which when combined with water is capable of providing indicated fire resistance, and complying with following requirements:

1. Composition: Portland cement-based; not mineral fiber-based.
2. Bond Strength: 1,000 psf, minimum, when tested in accordance with ASTM E736/E736M when set and dry.
3. Effect of Impact on Bonding: No cracking, spalling or delamination, when tested in accordance with ASTM E760/E760M.
4. Corrosivity: No evidence of corrosion, when tested in accordance with ASTM E937/E937M.
5. Air Erosion Resistance: Weight loss of 0.025 g/sq ft, maximum, when tested in accordance with ASTM E859/E859M after 24 hours.

6. Surface Burning Characteristics: Maximum flame spread index of 0 (zero) and maximum smoke developed index of 0 (zero), when tested in accordance with ASTM E84.

2.4 ACCESSORIES

- A. Primer Adhesive: Of type recommended by applied fire protection manufacturer.
- B. Overcoat: As recommended by manufacturer of applied fire protection material.
- C. Water: Clean, potable.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are ready to receive fireproofing.
- B. Verify that clips, hangers, supports, sleeves, and other items required to penetrate fireproofing are in place.
- C. Verify that ducts, piping, equipment, or other items that would interfere with application of fireproofing have not been installed.
- D. Verify that voids and cracks in substrate have been filled.
- E. Verify that projections have been removed where fireproofing will be exposed to view as a finish material.

3.2 PREPARATION

- A. Perform tests as recommended by fireproofing manufacturer in applications where adhesion of fireproofing to substrate is in question.
- B. Remove incompatible materials that could affect bond by scraping, brushing, scrubbing, or sandblasting.
- C. Prepare substrates to receive fireproofing in strict accordance with instructions of fireproofing manufacturer.
- D. Apply fireproofing manufacturer's recommended bonding agent on primed steel.
- E. Protect surfaces not scheduled for fireproofing and equipment from damage by overspray, fall-out, and dusting.
- F. Close off and seal duct work in areas where fireproofing is being applied.

3.3 APPLICATION

- A. Apply primer adhesive in accordance with manufacturer's instructions.
- B. Apply fireproofing in uniform thickness and density as necessary to achieve required ratings.

3.4 FIELD QUALITY CONTROL

- A. Inspect installed fireproofing after application and curing for integrity, prior to its concealment.
- B. Ensure that actual thicknesses, densities, and bond strengths meet requirements for specified ratings and requirements of authorities having jurisdiction (AHJ).

- C. Re-inspect installed fireproofing for integrity of fire protection, after installation of subsequent Work.

3.5 CLEANING

- A. Remove excess material, overspray, droppings, and debris.
- B. Remove fireproofing from materials and surfaces not required to be fireproofed.

END OF SECTION

**SECTION 07 8400
FIRESTOPPING**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Firestopping of joints and penetrations in fire-resistance-rated and smoke-resistant assemblies, whether indicated on drawings or not, and other openings indicated.

1.2 REFERENCE STANDARDS

- A. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems 2013a (Reapproved 2017).
- B. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems 2015 (Reapproved 2019).
- C. ASTM E2307 - Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-story Test Apparatus 2020.
- D. ASTM E2837 - Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies 2013 (Reapproved 2017).
- E. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi 2015, with Editorial Revision (2021).
- F. ITS (DIR) - Directory of Listed Products current edition.
- G. FM (AG) - FM Approval Guide current edition.
- H. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems Current Edition, Including All Revisions.
- I. UL (FRD) - Fire Resistance Directory Current Edition.

1.3 SUBMITTALS

- A. Schedule of Firestopping: List each type of penetration, fire rating of the penetrated assembly, and firestopping test or design number.
- B. Product Data: Provide data on product characteristics, performance ratings, and limitations.

1.4 QUALITY ASSURANCE

- A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
 - 1. Listing in UL (FRD), FM (AG), or ITS (DIR) will be considered as constituting an acceptable test report.
 - 2. Valid evaluation report published by ICC Evaluation Service, Inc. (ICC-ES) at www.icc-es.org will be considered as constituting an acceptable test report.

**WRC Birches, Powerhouse,
Elmcrest, & Med Center**

**Decentralization P4 & Fire Alarm
P3**

**IDAS Project # 9279.40
SH Project # 2240007040**

**Issued for Construction
03-14-2025**

**FIRESTOPPING
07 8400 - 1**

3. Submission of actual test reports is required for assemblies for which none of the above substantiation exists.

1.5 FIELD CONDITIONS

- A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation; maintain minimum temperature before, during, and for three days after installation of materials.
- B. Provide ventilation in areas where solvent-cured materials are being installed.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Firestopping Manufacturers:
 1. 3M Fire Protection Products: www.3m.com/firestop/#sle.
 2. Hilti, Inc: www.us.hilti.com/#sle.
 3. Rectorseal, a CSW Industrials Company: www.metacaulk.com/#sle.
 4. Specified Technologies Inc; www.stifirestop.com/#sle.
 5. Architect pre-approved equivalent.

2.2 MATERIALS

- A. Mold and Mildew Resistance: Provide firestopping materials with mold and mildew resistance rating of zero (0) in accordance with ASTM G21.
- B. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.
- C. Fire Ratings: Refer to drawings for required systems and ratings.

2.3 FIRESTOPPING ASSEMBLY REQUIREMENTS

- A. Head-of-Wall (HW) Joint System Firestopping at Joints Between Fire-Rated Wall Assemblies and Non-Rated Horizontal Assemblies: Use system that has been tested according to ASTM E2837 to have fire resistance F Rating equal to required fire rating of wall assembly.
- B. Floor-to-Floor (FF), Floor-to-Wall (FW), Head-of-Wall (HW), and Wall-to-Wall (WW) Joints, Except Perimeter, Where Both Are Fire-Rated: Use system that has been tested according to ASTM E1966 or UL 2079 to have fire resistance F Rating equal to required fire rating of the assembly in which the joint occurs.
- C. Through Penetration Firestopping: Use system that has been tested according to ASTM E814 to have fire resistance F Rating equal to required fire rating of penetrated assembly.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify openings are ready to receive the work of this section.

3.2 PREPARATION

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other materials that could adversely affect bond of firestopping material.
- B. Remove incompatible materials that could adversely affect bond.

3.3 INSTALLATION

- A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.
- B. Do not cover installed firestopping until inspected by Owner's Independent Testing Agency.
- C. Do not cover installed firestopping until inspected by authorities having jurisdiction.
- D. Install labeling required by code.

3.4 CLEANING

- A. Clean adjacent surfaces from damage by material installation.

END OF SECTION

WRC Birches, Powerhouse, Elmcrest, & Med Center Decentralization P4 & Fire Alarm P3
IDAS Project # 9279.40
SH Project # 2240007040

**SECTION 07 9000
JOINT SEALANTS**

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior and interior sealants.
2. Joint accessories.

1.2 REFERENCES

A. ASTM International Inc.

1. ASTM C 510 - Standard Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants.
2. ASTM C 719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle).
3. ASTM C 794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants.
4. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.
5. ASTM C 1193 - Standard Guide for Use of Joint Sealants.
6. ASTM C 1247 - Standard Test Method for Durability of Sealants Exposed to Continuous Immersion in Liquids.
7. ASTM C 1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants.
8. ASTM C 1311 - Standard Specification for Solvent Release Sealants.
9. ASTM D 2203 - Standard Test Method for Staining from Sealants.

1.3 SUBMITTALS

A. Product Data:

1. Materials list of items proposed to be provided under this Section and schedule indicating application for each sealant type.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.

B. Samples:

1. Submit standard cured color samples for each sealant type illustrating full range of colors.

C. Manufacturer's Certificate:

1. Certify products are suitable for intended use and products meet or exceed specified requirements.
2. Certify applicator is approved by manufacturer.

WRC Birches, Powerhouse,

Elmcrest, & Med Center

Decentralization P4 & Fire Alarm

P3

IDAS Project # 9279.40

SH Project # 2240007040

Issued for Construction

03-14-2025

Joint Sealants

07 9000 - 1

1.4 QUALITY ASSURANCE

A. Perform work in accordance with the following:

1. Building Joints: ASTM C 1193.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.

B. Applicator Qualifications:

1. Company approved by manufacturer.
2. Designate one individual as project foreman who shall be on site at all times during installation.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site in manufacturers unopened original packaging. Inspect for damage.

B. Store primers and sealants in cool dry location with ambient temperature range of 60 to 80 degrees F (15 to 27 degrees C).

1.7 ENVIRONMENTAL REQUIREMENTS

A. Do not install primers or sealants when atmospheric temperatures or joint surface temperatures are less than 40 degrees F (4 degrees C).

1.8 SCHEDULING

A. Ensure sealants are cured before covering with any other materials.

1.9 WARRANTY

A. Manufacturer's standard warranty covering sealant materials.

B. Applicator's standard warranty covering workmanship.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Tremco Sealant/Weatherproofing Division of RPM International, Inc.

B. Dow Corning Corporation.

C. Sonneborn Building Products Division, Rexnord Chemical Products, Inc. (Master Builders).

D. Architect pre-approved equivalent.

2.2 SILICONE SEALANTS

A. Single Component Silicone: Dow Corning Dowsil 795 Silicone Building Sealant or Architect pre-approved equivalent, color as selected, at exterior and interior perimeter of windows and doors.

2.3 POLYURETHANE SEALANTS

- A. Single Component Non-Sag Polyurethane: MasterSeal NP 1 (formerly known as Sonolastic NP 1) or Architect pre-approved equivalent, color as selected, at locations other than exterior and interior perimeter of windows and doors.
- B. ACCESSORIES
 - 1. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
 - 2. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
 - 3. Joint Backing: Closed-cell round foam rod compatible with sealant; oversized 25 to 50 percent larger than joint width; recommended by sealant manufacturer to suit application
 - 4. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.
 - 5. Masking tape: Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify substrate surfaces and joint openings are ready to receive work.
 - 1. Verify joint surfaces are clean and dry.
 - 2. Ensure concrete surfaces are fully cured.
- B. Report unsatisfactory conditions in writing to the Construction Manager.
- C. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Prepare joints in accordance with ASTM C 1193 and manufacturer's instructions.
- B. Clean joint surfaces to remove dirt, dust, oils, wax, paints, and other contamination capable of affecting primer and sealant bond.
- C. Protect elements surrounding the Work of this section from damage or disfiguration. Apply masking tape to adjacent surfaces when required to prevent damage to finishes from sealant installation.

3.3 EXISTING WORK

- A. Mechanically remove existing sealant.
- B. Clean joint surfaces of residual sealant and other contaminates capable of affecting sealant bond to joint surface.
- C. Allow joint surfaces to dry before installing new sealants.

3.4 SEALANT INSTALLATION

- A. Install primer and sealants in accordance with ASTM C 1193 and manufacturer's instructions.

- B. Install joint backing to maintain the following joint ratios:
 - 1. Joints up to 1/2 inch (13 mm) Wide: 1:1 width to depth ratio.
 - 2. Joints Greater than 1/2 inch (13 mm) Wide: 2:1 width to depth ratio; maximum 1/2 inch joint depth.
- C. Install bond breaker where joint backing is not used.
- D. Apply primer where required for sealant adhesion.
- E. Install sealants immediately after joint preparation.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- G. Joining Silicone and Polyurethane Sealants:
 - 1. Install polyurethane sealants first.
 - 2. Join silicone sealant to polyurethane in accordance with manufacturer's instructions.
- H. Tool exposed joint surface concave.

3.5 CLEANING

- A. Remove masking tape.
- B. Clean adjacent surfaces soiled by sealant installation.

END OF SECTION

**SECTION 08 1113
HOLLOW METAL DOORS AND FRAMES**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fire-rated hollow metal doors and frames.

1.2 ABBREVIATIONS AND ACRONYMS

- A. ANSI: American National Standards Institute.
- B. HMMA: Hollow Metal Manufacturers Association.
- C. NAAMM: National Association of Architectural Metal Manufacturers.
- D. NFPA: National Fire Protection Association.
- E. SDI: Steel Door Institute.
- F. UL: Underwriters Laboratories.

1.3 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors 2018.
- C. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames 2015.
- D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100) 2017.
- E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames 2020.
- F. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.
- G. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- H. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable 2021a.
- I. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2018a.
- J. BHMA A156.115 - Hardware Preparation In Steel Doors And Steel Frames 2016.
- K. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- L. ITS (DIR) - Directory of Listed Products current edition.

WRC Birches, Powerhouse,

Elmcrest, & Med Center

Decentralization P4 & Fire Alarm

P3

IDAS Project # 9279.40

SH Project # 2240007040

Issued for Construction

03-14-2025

**HOLLOW METAL DOORS AND
FRAMES**

08 1113 - 1

- M. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames 2002.
- N. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames 2011.
- O. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames 2007.
- P. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames 2014.
- Q. NFPA 80 - Standard for Fire Doors and Other Opening Protectives 2022.
- R. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives 2022.
- S. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies 2022.
- T. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames 2013.
- U. UL (DIR) - Online Certifications Directory Current Edition.
- V. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies Current Edition, Including All Revisions.
- W. UL 1784 - Standard for Air Leakage Tests of Door Assemblies Current Edition, Including All Revisions.

1.4 SUBMITTALS

- A. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.
- B. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, anchorage, connections, and identifying location of different finishes, if any.

1.5 QUALITY ASSURANCE

- A. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- B. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use non-vented plastic.
- C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch (102 mm) high wood blocking. Do not store in manner that traps excess humidity.
 - 1. Provide minimum 1/4 inch (6 mm) space between each stacked door to permit air circulation.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com/#sle.
 2. Curries, an Assa Abloy Group company: www.assaabloydss.com/#sle.
 3. Republic Doors, an Allegion brand: www.republicdoor.com/#sle.
 4. Steelcraft, an Allegion brand: www.allegion.com/#sle.
 5. Architect pre-approved equivalent.

2.2 PERFORMANCE REQUIREMENTS

- A. Requirements for Hollow Metal Doors and Frames:
1. Steel Sheet: Comply with one or more of the following requirements; galvanized steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
 2. Accessibility: Comply with ICC A117.1 and ADA Standards.
 3. Door Top Closures: Flush end closure channel, with top and door faces aligned.
 4. Door Edge Profile: Manufacturers standard for application indicated.
 5. Typical Door Face Sheets: Flush.
 6. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
 7. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40z (12G) coating designation; mill phosphatized.
- B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.3 HOLLOW METAL DOORS

- A. Door Finish: Factory primed and field finished.
- B. Interior Doors, Fire-Rated:
1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 2 - Heavy-duty.
 - b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 2, seamless design, continuously welded seam dressed smooth.

- d. Door Face Metal Thickness: 18 gauge, 0.042 inch (1.0 mm), minimum.
2. Fire Rating: As indicated on Door Schedule, tested in accordance with UL 10C and NFPA 252 ("positive pressure fire tests").
 - a. Temperature-Rise Rating (TRR) Across Door Thickness: In accordance with local building code and authorities having jurisdiction.
 - b. Provide units listed and labeled by UL (DIR) or ITS (DIR).
 - c. Attach fire rating label to each fire rated unit.
 - d. Smoke and Draft Control Doors (including all fire-rated doors): Self-closing or automatic closing doors in accordance with NFPA 80 and NFPA 105, with fire-resistance-rated wall construction rated the same or greater than the fire-rated doors, and the following:
 - 1) Maximum Air Leakage: 3.0 cfm/sq ft (0.02 cu m/sec/sq m) of door opening at 0.10 inch w.g. (24.9 Pa) pressure, when tested in accordance with UL 1784 at both ambient and elevated temperatures.
 - 2) Gasketing: Provide gasketing or edge sealing as necessary to achieve leakage limit.
 - 3) Label: Include the "S" label on fire-rating label of door.
3. Door Core Material: Manufacturers standard core material/construction in compliance with requirements.
4. Door Thickness: 1-3/4 inches (44.5 mm), nominal.
5. Door Face Sheets: Flush.

2.4 HOLLOW METAL FRAMES

- A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
- B. Frame Finish: Factory primed and field finished.
- C. Interior Door Frames, Fire-Rated: Full profile/continuously welded type.
 1. Fire Rating: Same as door, labeled.
 2. Frame Metal Thickness: 16 gauge, 0.053 inch (1.3 mm), minimum.
- D. Frames Wider than 48 inches: Reinforce with steel channel fitted tightly into frame head, flush with top.

2.5 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.6 ACCESSORIES

- A. Mechanical Fasteners for Concealed Metal-to-Metal Connections: Self-drilling, self-tapping, steel with electroplated zinc finish.
- B. Exposed Fasteners: Provide countersunk, flat- or oval-head screws and bolts for exposed fasteners unless otherwise indicated.

- C. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.
- D. Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow metal frames of type indicated.
- E. Frame Anchors
 - 1. Jamb Anchors:
 - a. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
 - b. Provide number and spacing of jamb anchors as follows:
 - 1) Fire ratings may require additional anchors.
 - 2) Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
 - (a) Three anchors per jamb up to 60 inches (1524 mm) high.
 - (b) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
 - (c) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
 - (d) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.
 - (e) Two anchors per head for frames above 42 inches (1066 mm) wide and mounted in metal-stud partitions.
 - 2. Floor Anchors: Formed from same material as frames, not less than 0.042 inch (1.0 mm) thick, and as follows:
 - a. Attachment: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
 - b. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
- F. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.
- G. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

2.7 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.
- C. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Section 08 7100.
 - 1. Reinforce doors and frames to receive non-templated, mortised and surface-mounted door hardware.

2. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
3. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 and Division 28 Sections.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.
- D. Examine rough-in for embedded and built-in anchors to verify actual locations before frame installation.
- E. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the requirements listed in Tolerances article below.
- C. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.
- B. Install fire rated units in accordance with NFPA 80.
- C. Smoke-Control Doors: Install doors according to NFPA 105.
- D. Coordinate frame anchor placement with wall construction.
- E. Install door hardware as specified in Section 08 7100.
 1. Comply with recommended practice for hardware placement of doors and frames in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.
- F. Coordinate installation of electrical connections to electrical hardware items.
- G. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.
 1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

- a. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
- 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
- H. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
 - 1. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
 - 2. Smoke-Control Doors: Install doors according to NFPA 105.

3.4 TOLERANCES

- A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.
- B. Maximum Diagonal Distortion: 1/16 inch (1.6 mm) measured with straight edge, corner to corner.
- C. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
- D. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
- E. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
- F. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

3.5 ADJUSTING

- A. Adjust for smooth and balanced door movement.
- B. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

C. SCHEDULE

- 1. Refer to Door and Frame Schedule on the drawings.

END OF SECTION

WRC Birches, Powerhouse, Elmcrest, & Med Center Decentralization P4 & Fire Alarm P3
IDAS Project # 9279.40
SH Project # 2240007040

**HOLLOW METAL DOORS AND
FRAMES
08 1113 - 8**

**Issued for Construction
03-14-2025**

**SECTION 08 7100
DOOR HARDWARE**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hardware for fire-rated doors.

1.2 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. BHMA A156.1 - Standard for Butts and Hinges; 2021.
- C. BHMA A156.4 - Door Controls - Closers; 2019.
- D. BHMA A156.8 - Door Controls - Overhead Stops and Holders; 2021.
- E. BHMA A156.18 - Materials and Finishes; 2020.
- F. BHMA A156.115 - Hardware Preparation in Steel Doors and Steel Frames; 2016.
- G. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; 2004.
- H. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
- I. ITS (DIR) - Directory of Listed Products; current edition.
- J. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2022.
- K. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- L. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2022.
- M. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.
- N. UL (DIR) - Online Certifications Directory; Current Edition.
- O. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.

**WRC Birches, Powerhouse,
Elmcrest, & Med Center**

**Decentralization P4 & Fire Alarm
P3**

IDAS Project # 9279.40

SH Project # 2240007040

**Issued for Construction
03-14-2025**

**Door Hardware
08 7100 - 1**

- B. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
 - 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
 - 2. Provide complete description for each door listed.
- C. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- D. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
 - 1. Submit manufacturer's parts lists and templates.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

1.6 WARRANTY

- A. Manufacturer's Warranty: Provide warranty against defects in material and workmanship for period indicated. Complete forms in Owner's name and register with manufacturer.
 - 1. Closers: Five years, minimum.
 - 2. Exit Devices: Three years, minimum.
 - 3. Other Hardware: Two years, minimum.

PART 2 PRODUCTS

2.1 DESIGN AND PERFORMANCE CRITERIA

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - 3. Applicable provisions of NFPA 101.
 - 4. Fire-Rated Doors: NFPA 80, listed and labeled by qualified testing agency for fire protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.
 - 5. Hardware on Fire-Rated Doors: Listed and classified by UL (DIR), ITS (DIR), or testing firm acceptable to authorities having jurisdiction as suitable for application indicated.
 - 6. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
- D. Fasteners:
 - 1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.

- a. Aluminum fasteners are not permitted.
 - b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
2. Fire-Rated Applications: Comply with NFPA 80.
- a. Provide wood or machine screws for hinges mortised to doors or frames, strike plates to frames, and closers to doors and frames.
 - b. Provide steel through bolts for attachment of surface mounted closers, hinges, or exit devices to door panels unless proper door blocking is provided.

2.2 HINGES

A. Manufacturers:

1. McKinney; an Assa Abloy Group company: www.assaabloydss.com/#sle.
2. Bommer Industries, Inc: www.bommer.com/#sle.
3. Hager Companies: www.hagerco.com/#sle.
4. Stanley, dormakaba Group: www.stanleyhardwarefordoors.com/#sle.
5. Architect pre-approved equivalent.

B. Hinges: Comply with BHMA A156.1, Grade 1.

1. Provide hinges on every swinging door.
2. Provide following quantity of butt hinges for each door:
 - a. Doors From 60 inches High up to 90 inches High: Three hinges.
3. 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" heavy weight as specified.
 - b. Widths from 3'-1" to 4'-0": 5" heavy weight as specified.

2.3 MORTISE LOCKS

A. Locks to be provided by Owner.

2.4 CLOSERS

A. Manufacturers; Surface Mounted:

1. Corbin Russwin, Norton, Rixson, Sargent, or Yale; an Assa Abloy Group company: www.assaabloydss.com/#sle.
2. DORMA USA, Inc; 7400 Series, 8600 Series, 8900 Series, and TS93: www.dorma.com/#sle.
3. Hager Companies: www.hagerco.com/#sle.
4. LCN, an Allegion brand: www.allegion.com/us/#sle.
5. Stanley, dormakaba Group: www.stanleyhardwarefordoors.com/#sle.
6. Architect pre-approved equivalent.

- B. Closers: Comply with BHMA A156.4, Grade 1.
 - 1. Type: Surface mounted to door.
 - 2. Provide door closer on each exterior door.

2.5 OVERHEAD STOPS AND HOLDERS

- A. Manufacturers:
 - 1. Rixson or Sargent; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 2. DORMA USA, Inc; 900 Series: www.dorma.com/#sle.
 - 3. Glynn-Johnson, an Allegion brand: www.allegion.com/us/#sle.
 - 4. Architect pre-approved equivalent.
- B. Overhead Stops and Holders (Door Checks): Comply with BHMA A156.8, Grade 1.
 - 1. Provide stop for every swinging door, unless otherwise indicated.

2.6 SILENCERS

- A. Manufacturers:
 - 1. Ives, an Allegion brand: www.allegion.com/us/#sle.
 - 2. Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 3. Architect pre-approved equivalent.
- B. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
 - 1. Single Door: Provide three on strike jamb of frame.
 - 2. Pair of Doors: Provide two on head of frame, one for each door at latch side.
 - 3. Material: Rubber, black color.

2.7 FINISHES

- A. Finishes: Provide door hardware of same finish, unless otherwise indicated.
 - 1. Primary Finish: 626; satin chromium plated over nickel, with brass or bronze base material (former US equivalent US26D); BHMA A156.18.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.
- B. Verify that electric power is available to power operated devices and of correct characteristics.

3.2 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.

- B. Install hardware on fire-rated doors and frames in accordance with applicable codes and NFPA 80.
- C. Install hardware for smoke and draft control doors in accordance with NFPA 105.
- D. Use templates provided by hardware item manufacturer.
- E. Do not install surface mounted items until application of finishes to substrate are fully completed.
- F. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
 - 1. For Steel Doors and Frames: Install in compliance with DHI (LOCS) recommendations.
 - 2. Mounting heights in compliance with ADA Standards:
- G. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.3 FIELD QUALITY CONTROL

- A. Provide an Architectural Hardware Consultant (AHC) to inspect installation and certify that hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

3.4 ADJUSTING

- A. Adjust hardware for smooth operation.
- B. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.5 CLEANING

- A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.6 PROTECTION

- A. Do not permit adjacent work to damage hardware or finish.

END OF SECTION

WRC Birches, Powerhouse, Elmcrest, & Med Center Decentralization P4 & Fire Alarm P3
IDAS Project # 9279.40
SH Project # 2240007040

**SECTION 09 2116
GYPSUM BOARD ASSEMBLIES**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Metal channel ceiling framing.
- D. Gypsum wallboard.
- E. Joint treatment and accessories.

1.2 REFERENCE STANDARDS

- A. AISI S100 - North American Specification for the Design of Cold-Formed Steel Structural Members 2016, with Supplement (2018).
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- C. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board 2017.
- D. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members 2018.
- E. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products 2020.
- F. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2020.
- G. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness 2018.
- H. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs 2020.
- I. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base 2019.
- J. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.
- K. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2016.
- L. GA-216 - Application and Finishing of Gypsum Panel Products 2018.

1.3 SUBMITTALS

- A. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

**WRC Birches, Powerhouse,
Elmcrest, & Med Center**

**Decentralization P4 & Fire Alarm
P3**

IDAS Project # 9279.40

SH Project # 2240007040

**Issued for Construction
03-14-2025**

GYPSUM BOARD ASSEMBLIES

09 2116 - 1

- B. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Fire-Resistance-Rated Assemblies: Provide completed assemblies complying with applicable code.
 - 1. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.2 METAL FRAMING MATERIALS

- A. Non-structural Framing System Components: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf (L/120 at 240 Pa).
 - 1. Studs: C-shaped with knurled or embossed faces.
 - 2. Runners: U shaped, sized to match studs.
 - 3. Ceiling Channels: C-shaped.
- B. Shaft Wall Studs and Accessories: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and specified performance requirements.
- C. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws, and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
 - 1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100.
 - 2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot-dipped galvanized coating.
 - 3. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-resistance rating of the wall assembly.
 - a. Products:
 - 1) ClarkDietrich; BlazeFrame RipTrak: www.clarkdietrich.com/#sle.
 - 2) FireTrak Corporation; Posi Klip: www.fire-trak.com/#sle.
 - 3) Metal-Lite, Inc; The System: www.metal-lite.net/#sle.
 - 4) Architect pre-approved equivalent.

2.3 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
 - 1. American Gypsum Company: www.americangypsum.com/#sle.
 - 2. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
 - 3. National Gypsum Company: www.nationalgypsum.com/#sle.

4. USG Corporation: www.usg.com/#sle.
 5. Architect pre-approved equivalent.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces, unless otherwise indicated.
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - a. Mold resistant board is required at all locations.
 3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 4. Thickness:
 - a. Vertical Surfaces: 5/8 inch (16 mm).
 - b. Ceilings: 5/8 inch (16 mm).
- C. Backing Board for Non-Wet areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Vertical surfaces in all mechanical spaces.
 2. Mold resistance: Score of 10, when tested in accordance with ASTM D3273.
 3. Type: X.
 4. Thickness: 5/8 inch (16 mm).
 5. Edges: Tapered.
 6. Products:
 - a. Georgia-Pacific Gypsum; DensArmor Plus; www.gpgypsum.com/#sle.
 - b. Gold Bond Building Products, LLC provided by National Gypsum company; Gold Bond XP Fire-Shield Gypsum Board; www.goldbondbuilding.com/#sle.
 - c. Architect pre-approved equivalent.
- D. Shaftwall and Coreboard: Type X; 1 inch thick by 24 inches wide, beveled long edges, ends square cut.
1. Glass Mat Faced Type: Glass mat shaftliner gypsum panel or glass mat coreboard gypsum panel as defined in ASTM C1638/C1658M; water-resistant faces.
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 3. Glass Mat Faced Products:
 - a. Georgia-Pacific Gypsum; DensGlass Shaftliner (mold-resistant); www.gpgypsum.com/#sle.
 - b. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond eXP Shaftliner; www.goldbondbuilding.com/#sle.
 - c. Architect pre-approved equivalent.

2.4 GYPSUM WALLBOARD ACCESSORIES

- A. Finishing Accessories: ASTM C1047, extruded aluminum alloy (6063 T5) or galvanized steel sheet ASTM A924/A924M G90, unless noted otherwise.
 - 1. Types: As detailed or required for finished appearance.
 - 2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead at exposed panel edges.
- B. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
- C. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.
- D. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.2 SHAFT WALL INSTALLATION

- A. Shaft Wall Framing: Install in accordance with manufacturer's installation instructions.
- B. Shaft Wall Liner: Cut panels to accurate dimensions and install sequentially between special friction studs.

3.3 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Suspended Ceilings: Space framing and furring members at 16 inches on center (at 400 mm on center).
 - 1. Level ceiling system to a tolerance of 1/1200.
 - 2. Laterally brace entire suspension system.
- C. Studs: Space studs at 16 inches on center (at 406 mm on center).
 - 1. Extend partition framing to structure in all locations.
 - 2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

3.4 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

- B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
- C. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- D. Installation on Metal Framing: Use screws for attachment of gypsum board.

3.5 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
 - 1. Space control joints in accordance with ASTM C840 at specific locations indicated on drawings or approved by Architect.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.6 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 - 2. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).

3.7 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

END OF SECTION

WRC Birches, Powerhouse, Elmcrest, & Med Center Decentralization P4 & Fire Alarm P3
IDAS Project # 9279.40
SH Project # 2240007040

**SECTION 09 9123
INTERIOR PAINTING**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Paint all new walls, new doors and frames, new metal convector cabinet covers, and other surfaces as indicated.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 - 5. Floors, unless specifically indicated.
 - 6. Concealed pipes, ducts, and conduits.

1.2 DEFINITIONS

- A. Comply with ASTM D16 for interpretation of terms used in this section.

1.3 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency current edition.
- B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications 2019.
- C. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association Current Edition.
- D. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual Current Edition.
- E. SSPC-SP 1 - Solvent Cleaning 2015, with Editorial Revision (2016).
- F. SSPC-SP 6 - Commercial Blast Cleaning 2007.

1.4 SUBMITTALS

- A. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
 - 2. MPI product number (e.g., MPI #47).
 - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
- B. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
- C. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.6 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F (3 degrees C) above the dew point, or to damp or wet surfaces.
- D. Minimum Application Temperatures for Paints: 50 degrees F (10 degrees C) for interiors unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Provide paints and finishes from the same manufacturer to the greatest extent possible.
- B. Paints:
 - 1. Diamond Vogel Paints: www.diamondvogel.com/#sle.
 - 2. PPG Paints: www.ppgpaints.com/#sle.
 - 3. Sherwin-Williams Company: www.sherwin-williams.com/#sle.

4. Architect pre-approved equivalent.

2.2 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
 1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.
 2. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 3. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 4. Supply each paint material in quantity required to complete entire project's work from a single production run.
 5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Volatile Organic Compound (VOC) Content:
 1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - b. Architectural coatings VOC limits of State in which the project is located.
 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- C. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect/Engineer from the manufacturer's full line.
- D. Colors:
 1. Selection to be made by Owner/Architect after award of contract.

2.3 PAINT SYSTEMS - INTERIOR

- A. Paint - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, uncoated steel, shop primed steel, and galvanized steel.
 1. Two top coats and one coat primer.
 2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.
 - a. Products:
 - 1) Sherwin-Williams Pre-Catalyzed Waterbased Epoxy, Eg-Shel. (MPI #139)
 - 2) Sherwin-Williams Pre-Catalyzed Waterbased Epoxy, Semi-Gloss. (MPI #141)
 - 3) Architect pre-approved equivalent.
 3. Top Coat Sheen:
 - a. Eggshell: MPI gloss level 3; use this sheen at gypsum wallboard locations.

- b. Semi-Gloss: MPI gloss level 5; use this sheen for hollow metal doors and frames.
- 4. Primer: As recommended by top coat manufacturer for specific substrate.

2.4 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin application of paints and finishes until substrates have been adequately prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. If substrate preparation is the responsibility of another installer, notify Architect/Engineer of unsatisfactory preparation before proceeding.
- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
 - 1. Gypsum Wallboard: 12 percent.

3.2 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or repair existing paints or finishes that exhibit surface defects.
- D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Seal surfaces that might cause bleed through or staining of topcoat.
- F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
- H. Galvanized Surfaces:
 - 1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
- I. Ferrous Metal:
 - 1. Solvent clean according to SSPC-SP 1.

2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
3. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.

3.3 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- E. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.5 PROTECTION

- A. Touch-up damaged finishes after Substantial Completion.

END OF SECTION