WOODBURN MUSEUM & THEATER REROOF & SEISMIC UPGRADE
ADDENDUM #1

January 04, 2019

This Addendum to the Bid Documents is issued to clarify, correct, and supplement the Drawings and Specification issued as " WOODBURN MUSEUM & THEATER REROOF & SEISMIC UPGRADE – BID/PERMIT CD SET" dated November 9, 2018. This addendum adds to, and where in conflict with, supersedes previously issued drawings and addenda. This Document is hereby made a part of the Contract Documents to the same extent as though it were originally included therein.

MODIFICATIONS TO DRAWINGS AND SUPPLEMENTAL INFORMATION

Description of item number: **1.A101.3**, where
1. is the addendum number,
A101. is the Drawing number, sketch number or Specification section, and
3. is the sequential addendum item number for that Drawing or Specification.

ATTACHMENTS

Revised Bid Documents:	None
Substitution Request:	**No.1:** PVC Roofing IB Roof Systems Submitted by: IB Roof Systems Approved
Environmental Report:	Limited Asbestos Building Material Survey & Limited Lead Based Paint Sampling Report by Advantage Environmental Inc, dated: December 11, 2017 See Attached Limited Asbestos Building Material Survey by Advantage Environmental Inc, dated: May 7, 2018 See Attached
Roof Assessment:	Roof Inspection Report by ATech Northwest, Inc., dated: September 11, 2012 See Attached
Geotechnical Report:	Report of Geotechnical Engineering Services by Geotech Solutions Inc, dated January 31, 2018 See Attached
Pre-bid Sign-In Sheet:	See Attached

List of Bidders Questions and
Responses: See Attached

I have received, read and incorporated changes, per this addendum, in my proposed bid:

_____

Signature *Date*

END OF DOCUMENT

SUBSTITUTION REQUEST

The Construction Specifications Institute
Northwest Region

TO: David Hyman - DECA Architecture (hyman@deca-inc.com; dole@deca-inc.com)

PROJECT: City of Woodburn - Museum & Theater Reroof

SPECIFIED ITEM:

075419	12-13	2.04 - 2.05	PVC Membrane Materials & Accessories
Section No.	**Page**	**Paragraph**	**Description**

PROPOSED SUBSTITUTION: 60 mil IB PVC Single Ply Membrane & related accessories

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of request including identifying applicable portions.

Attached data also includes description of changes to Contract Documents that proposed substitution requires for proper installation.

Undersigned certifies that the following items, unless modified by attachments, are correct:

1. Proposed substitution does not affect dimensions shown on Drawings.
2. Undersigned pays for changes to building design, including engineering design, detailing and construction costs caused by proposed substitution.
3. Proposed substitution has no adverse effect on other trades, construction schedule, or specified warranty requirements.
4. Maintenance and service parts are available locally or are readily obtainable for proposed substitution.

Undersigned further certifies that function, appearance, and quality of proposed substitution are equivalent or superior to specified item.

Undersigned agrees that, if this page is reproduced, terms and conditions for substitutions found in Bidding Documents apply to this proposed substitution.

Submitted by

Joel King - IB Roof Systems
Name (Print)

Signature

IB Roof Systems
Firm Name

8181 Jetstar Drive Suite 150
Address

Irving, TX 75063
City, State, Zip

1-04-2019
Date

800-426-1626 541-610-1726
Telephone Fax

General Contractor (if after award of Contract)

For use by A/E:

X Approved ____ Approved as Noted

____ Not Approved ____ Received Too Late

Brandon Dole, DECA Architecture
By

01/04/2019
Date

Remarks

Attachments Product Data Sheets
IB Proposed Substitution in detail

1999 Edition

IB Roof Systems™

High Performance PVC Membranes

PRODUCT SUBSTITUTION REQUEST

To: DECA Architecture 935 SE Alder Street Portland, OR 97214 Attn: David Hyman hyman@deca-inc.com dole@deca-inc.com RE: City of Woodburn Museum & Theater Reroof Woodburn, OR	From: IB Roof Systems – Architectural Services Group IBRS File Number: 19-OR0104-001 Specified Product(s): 60 mil PVC; Gray, Energy Star listed Specified Manufacturers: Sika-Sarnafil, Carlisle, GAF, JM Bid Date:

IB Roof Systems is submitting for your review the IB Single Ply Roofing Materials listed on the accompanying attachment(s), and hereby requests that said Materials be approved as an acceptable substitution/approved as equal to the corresponding products for the above referenced project.

Attached data includes product description, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

The undersigned Certifies:

- Proposed material substitution is equal or superior to the specified product or referenced standard as indicated in the accompanying material comparison table.
- The same warranty term will be furnished for proposed substitution as for the specified product unless stated otherwise in accompanying notation(s).
- The same material and source of replacement parts, as applicable, will be reasonably available in the project area.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances unless otherwise stated on accompanying notation(s).

Submitted by: IB ROOF SYSTEMS - TECHNICAL SERVICES
Signed by: Joel King – Architectural/Technical Manager
Address: 8181 Jetstar Drive #150, Irving, TX 75063
Phone: (800) 426-1626
Fax: (541) 610-6608
Email: Joel.king@ibroof.com

_____

Signature Joel J. King Date: 1/04/2019

PLEASE RETURN VIA EMAIL @ technical@ibroof.com
or FAX @ 541-610-6608

IB Roof Systems™

High Performance PVC Membranes

IB PVC Roof Systems – A Better Choice – Discover the Difference

IB PVC Roof Systems, A Better Choice - For more than 40 years, IB Roof Systems has been producing complete PVC single ply membrane roofing solutions for low-sloped roofing applications – with easier installation, less time and labor costs, longest warranty, lowest maintenance and most durable membrane, coupled with the best technical and product support team – IB Roof Systems is the right choice.

Discover the Difference – At IB Roof Systems we believe that there are three guiding principles that lead us every day while we strive to be the ***Industry's Best***... those principles are Quality Products, Exceptional Service and Technical Expertise.

- **Quality Products** - When you are looking for a product that can protect your building assets for the long term, that's when you turn to a proven, sustainable, and quality product. At IB Roof Systems, we are dedicated to providing our customers just that. Contractors and design professionals comfortably and confidently select to work with products from IB because of their performance, reliability, and longevity. That translates into architects, engineers, and building owners across the country who have been able to rest assured that their IB roofs are providing protection. To meet that high standard of performance, you need to have a strong and reliable base and that base begins with the formulation of the product. IB has stayed true to its ***Industry's Best*** name enduring time and performance with a proven formula and production process since 1978 by utilizing only the highest quality polymers, plasticizers, fire retardants, and UV stabilizers available to ensure a highly flexible and durable PVC membrane.
- **Exceptional Service** - Customer service is a staple of IB Roof Systems. We are dedicated to providing our customers with an experience unlike any other. We work hard to ensure that we give the personalized attention needed so that each and every project ends with a positive experience. This experience begins with the initial phone call to one of our customer service or sales representatives. You will be speaking with a highly knowledgeable individual who will be able to provide the answers and resolutions to your roofing needs. Regardless of whether you have a highly specialized commercial project or a residential property that needs the best kind of protection and/or performance available, IB Roof Systems can accommodate you. Our team is able to customize flashings to fit most penetrations and roof conditions that you might deal with. We even work in conjunction with the sales representative/building owner to customize a special color for your roof.
- **Technical Expertise** – IB Roof Systems strives to provide installing contractors, design professionals, and building owners with exceptional technical assistance. We are here to provide you with all of the tools that you need to complete a successful project. We offer highly trained field technical representatives providing invaluable expertise to the contractor through job-starts and interim inspections to ensure quality installation.

Pioneering since 1978 - IB Roof Systems has been a pioneer in the low-slope roofing industry. We were the first to create pre-formed flashings and edge details and the first to introduce a lifetime residential warranty. We have set the standard for other manufacturers to follow. Today we continue to lead the industry with new innovations and proven products. IB Roof Systems is the right choice.

Call and speak to a knowledgeable roofing industry professional today, toll-free 800-426-1626 or visit our website at www.ibroof.com

High Performance PVC Membranes

IB Roof Systems Specification: 60 mil PVC Warranty: 20 Year Total Systems NDL Warranty

Section 075419	Specified Description / ASTM Standard	Proposed IB Roof System / Product
2.04 A.	PVC Sheet Gray or Cool Stone	**IB PVC Single-Ply 60** Polyester scrim reinforced, compounded PVC resin based thermoplastic meeting ASTM D4434-12, Type III. Rolls are manufactured in a nominal 60 mil thickness, with a 28 mil top ply weathering film and use an anti-wicking scrim for added strength, tear resistance and enhanced moisture resistance. Available in widths of 6 feet and 3 feet for easier handling. Approvals: UL Classified, FM Approved, FBC, Miami-Dade, Texas Windstorm (TDI) and ICC-ES. Available in standard colors of white, tan, cool sand, cool stone, gray, red, green and brown. White exceeds Energy Star and California Title 24 requirements for Solar Reflectance and Emissivity. SRI white - (initial = 110, 3-Year Aged = 91).
2.04 B.	Adhesive	**IB Vertibond Adhesive** Synthetic polymer based adhesive designed specifically for horizontal and vertical bonding applications of IB Membranes to approved insulations, cover boards and decking materials. IB Vertibond Adhesive has no slope limitations and should be used when adhering membrane wall flashings to various substrates or other vertical surfaces.
2.04 C.	Sheet Flashing (same as membrane)	**IB PVC Single-Ply 60** Polyester scrim reinforced, compounded PVC resin based thermoplastic meeting ASTM D4434-12, Type III. Rolls are manufactured in a nominal 60 mil thickness, with a 28 mil top ply weathering film and use an anti-wicking scrim for added strength, tear resistance and enhanced moisture resistance. Available in widths of 6 feet and 3 feet for easier handling. Approvals: UL Classified, FM Approved, FBC, Miami-Dade, Texas Windstorm (TDI) and ICC-ES. Available in standard colors of white, tan, cool sand, cool stone, gray, red, green and brown. White exceeds Energy Star and California Title 24 requirements for Solar Reflectance and Emissivity. SRI white - (initial = 110, 3-Year Aged = 91).Used for flashing of curbs and walls.
204 D.	Flashing Accessories	**IB Miscellaneous Accessories** **(Inside & Outside Corners, T-Joint Patches, IB Cover Strip, IB Pitch Pans, IB Clad Metal Scupper, Membrane Vents, & Preformed Cones)** Made from same material as IB PVC membranes are applied using hot air welding procedures. Where metal is incorporated into the product, metal is made from PVC clad sheet metal. Membrane meets or exceeds the requirements of ASTM D4434 Standard Specification for polyvinyl chloride (PVC) based sheet roofing.
2.04 E.	Miscellaneous Sealants	**IB Miscellaneous Adhesives** **(IB WaterStop, IB One Part Filler, M1 Sealant & Solar Seal)** As specified to meet IB requirements
2.04 F	2-Piece Compression Metal System	**Anchor Tite Drip Edge** 24 gauge edge metal fabricated with 45 mil non-reinforced IB PVC film with acrylic finish available in several profiles. Anchor Tite consists of an extruded aluminum anchor bar to securely terminate the IB PVC membrane, providing protection superior to any other manufactured or shop-fabricated roof edge. The low profile roofing flange allows for water drainage
2.04 F	Vinyl Coated Metal	**IB PVC Clad Metal** As specified to meet wind uplift and IB requirements
2.04 G	Walkways	**IB WalkTread™** 80 Mil calendared and embossed PVC walk tread with a reinforced scrim backing that can be installed either fully adhered and perimeter welded to an IB Single-Ply Membrane system or loose laid and perimeter welded to an IB Single-Ply Membrane system. Available in gray only.
2.05 B.	Polyisocyanurate Board Insulation	**IB EnergyBoard III & IB EnergyBoard III Tapered**

		Closed cell, polyiso foam core laminated to a non-asphaltic glass fiber-reinforced facer. Meets ASTM C1289, Type II, Class 1. FS HH-I-1972/GEN and HH-I-1972/2 (20 psi) or Grade 3 (25 psi).
2.05 C	Insulation Fasteners	**IB Fasteners and Plates** As specified to meet wind uplift and IB requirements
2.05 D	High Density Cover Board	**Dens Deck Prime** Gypsum panel, manufactured to conform to ASTM C1177. Thickness 1/2".
2.05 C (Alternative)	IsoWeld Fastening System	**IB Fasteners and *IsoWeld*® PVC Coated Plates** Induction welding system of IB PVC Single Ply membrane to pre-fastened PVC coated securement plates. Plates are used in lieu of standard insulation plates. Insulation fasteners are as specified.

Notes: *Thank you for considering IB Roof Systems! Shawn Stockford is our local IB Representative and can be reached at 541-513-6374.*

IB Roof Systems™

High Performance PVC Membranes

A/E Review and Action

Project: City of Woodburn
Museum & Theater
Woodburn, OR

IBRS File Number: 19-OR0104-001

☑	Substitution Approved	Brandon Dole, DECA Architecture
☐	Substitution Approved as Noted	_____
☐	Okay to bid as Equal/Review upon Award	_____
☐	Substitution Rejected	_____
☐	Received too Late	_____
☐	Other: _____	_____

ADVANTAGE Environmental INC.

LIMITED ASBESTOS BUILDING MATERIAL SURVEY & LIMITED LEAD BASED PAINT SAMPLING REPORT

Conducted at:
Woodburn Historical Museum
455 & 469 N Front St
Woodburn, OR 97071

Conducted for:
City of Woodburn
190 Garfield St
Woodburn, OR 97071

Prepared By:
Advantage Environmental Inc.
9317 NE Hwy 99, Suite A
Vancouver, WA 98665

ADVANTAGE Environmental INC.

Clean your world.

December 11, 2017

City of Woodburn
Pete Gaither – Project Engineer
190 Garfield St
Woodburn, OR 97071
503-980-2429
971-563-3840
Pete.Gauthier@ci.woodburn.or.us

RE: Limited asbestos building material survey & limited lead based paint sampling:
Woodburn Historical Museum – 455 & 469 N Front St-Woodburn, OR

Dear Mr. Gaither,

Per your request, Advantage Environmental, Inc. (AEI) has conducted a limited asbestos building material survey & limited lead based paint sampling of the structure located at 455 & 469 N Front St in Woodburn, OR. The results of the survey are provided in the accompanying report.

Thank you for choosing AEI for this project. Please feel free to contact us at (360) 356-7628 if you have any questions.

Respectfully,
Advantage Environmental, Inc.

Pete Coleman
Office Manager

1. INTRODUCTION

Advantage Environmental, Inc. was retained by The City of Woodburn to perform a limited asbestos building material survey & limited lead based paint sampling of with the Woodburn Historical Museum located at 455 & 469 N Front St in Woodburn, OR. The on-site inspection was performed by EPA/AHERA accredited building inspector Eric Neal on December 1, 2017.

2. BUILDING DESCRIPTION

The structure is a commercial museum currently owned by The City of Woodburn and occupied as the Woodburn Historical Museum. Interior walls and ceilings consisted of gypsum wallboard with texture. Flooring was comprised of concrete with vinyl tile or sheet flooring throughout. The building is on a concrete foundation.

3. PURPOSE AND SCOPE

The purpose of this survey was to identify the location of asbestos containing materials and lead based paints prior to renovation and disposal of building materials within the structure. The scope of work included a walk-through inspection, bulk sampling and analysis of specific suspect asbestos/lead containing materials with a written report documenting the results of the survey. This survey was limited to the materials identified within appendix A.

This is not a bidding document and all quantities of asbestos containing material should be verified by the abatement contractor prior to submitting their bid.

4. VISUAL ASSEMENT AND FINDINGS

Our survey activities began with visual observation of the interior of the structure to identify homogeneous areas of suspect asbestos containing materials. Interior assessments were conducted throughout visually accessible areas of the building.

Building materials identified as concrete, glass, wood, masonry, metal or rubber were not considered suspect asbestos containing material.

Unidentified asbestos-containing materials may be in place behind walls, ceilings, under floors, beneath carpeted areas, areas thought not to be deemed necessary at the time of inspection and in other inaccessible areas.

A table indicating sample numbers, material description, material location, material condition and asbestos content of each material sampled is included in Appendix A. Laboratory analytical results and chain of custody documentation are included in Appendix B. AHERA Building inspector credentials are included in Appendix C.

Additional asbestos-containing material may be in place behind/beneath floors, wall ceiling, debris or in areas deemed unnecessary at the time of inspection by the property owner/representative.

Suspect asbestos-containing building material sampled and analyzed included:

- White joint compound
- White drywall
- Tan skim coat
- White plaster
- Gray plaster
- Red plaster
- Light gray skim coat
- White skim coat
- Tan plaster
- White popcorn ceiling texture
- White/tan 15”x30” ceiling tile
- Brown 15”x30” ceiling tile
- Brown glue dot mastic
- Orange/red brick
- Gray mortar
- Turquoise/blue ceramic tile
- Tan grout
- Gray leveling compound
- Tan 9” vinyl floor tile
- Black floor mastic
- Brown 9” vinyl floor tile
- Yellow floor mastic
- Blue/off-white floor vinyl
- Black/yellow floor mastic
- Tan vinyl floor tile
- Wood-look/tan floor vinyl

The following material contains less than 1% asbestos content when analyzed as composite. See discussion and recommendations for further information.

Material Type	Material Location
**Drywall/joint compound	#469 Presumed throughout the entirety of the structure

***Due to high risk of personnel and/or environmental exposure/contamination; regulatory agencies advise use of licenses asbestos abatement contractor for removal of <1% asbestos containing material. Material containing less than 1% asbestos content are not quantified.*

Of the suspect asbestos-containing materials sampled, laboratory analysis indicated the following material contained asbestos content of 1% or greater. These materials will need to be removed prior to disturbance, construction or demolition activities that may impact these materials.

Material Type	**Sample Location**	**Approximate Quantity****	**Friable Yes / No**
White popcorn ceiling texture	#469 Theater, #469 Theater Projection Room & #469 Front Room	~1,600 sq. ft.	Yes
Tan 9” vinyl floor tile & black floor mastic, Brown 9” vinyl floor tile & black floor mastic	#469 Furnace Room top and sublayer flooring	~150 sq. ft.	No
Brown 9” vinyl floor tile & black floor mastic	#469 Furnace Room top and sublayer flooring	~150 sq. ft.	No

Material Type	Sample Location	Approximate Quantity**	Friable Yes / No
Black/yellow floor mastic, Tan vinyl floor tile & black floor mastic	#469 Front Room corner, advised by City of Woodburn Project Engineer that these materials are throughout most of the space.	~1,700 sq. ft.	No

***Note**: A diligent inspection was conducted and every effort was made to inspect and investigate all areas of the aforementioned building(s). However, unidentified asbestos-containing material may still be in place behind walls, under floors, cabinets, above ceilings, etc., and/or in other areas of the structure inspected that were inaccessible/not included at the time of this survey.*

***Quantities based on visual observations at time of inspection, additional quantities may be in concealed areas. All quantities should be verified prior to removal.*

Limited sampling for lead-based paint was also conducted as part of this survey. Sample results with a "less than" (<) sign indicate the sample results were below the laboratories reporting limit. See laboratory results for more information. Painted surfaces that were sampled are listed below with their corresponding analytical result.

Sample – Color	Paint Location	Results (PPM) Parts Per Million
Pb-1-Black	#455 Exterior-trim	107
Pb-2-White	#455 Exterior-trim	<49.6
Pb-3-Red	#455 Exterior-door	164
Pb-4-Blue	#469 Interior-wall	115
Pb-5-White	#469 Interior-trim	<52.7
Pb-6-Pale-Green	#469 Interior-Restroom wall & trim	<49.8

Most of the observed suspect lead-based paint is in generally fair condition. Care should be exercised while disturbing the lead-based paint by trained personnel. Paint may be located in other areas of the buildings in addition to the specific areas observed. Interior finishing had appeared to be newer. Loose failing paint may be required to be removed prior to disturbance.

5. SAMPLING METHODOLOGY

Asbestos

A walk-through of the structure was conducted by an EPA/AHERA accredited building inspector to identify the location of suspect asbestos-containing materials. The location, approximate quantities and condition of each material was recorded onto field data sheets. Bulk samples of each suspect material were then collected and submitted to the laboratory under chain of custody documentation for analysis of asbestos content.

Samples were collected from selected homogeneous material in order to evaluate the presence or absence of asbestos in each material. Determination of homogeneous material included material type, texture, pattern, color, and size. A total of 48 suspect asbestos-containing material samples were analyzed including sub-layers.

All samples collected by AEI were placed into pre-labeled airtight containers and shipped to Quantem Laboratories for analysis of asbestos content. Quantem Laboratories analyzed the samples using Polarized Light Microscopy (PLM) with dispersion staining to identify asbestos constituents as required by EPA regulation 40 CFR, Part 763.

Lead

Sampling for lead-based paint was limited and an attempt was made to address each of the primary paint colors observed during the inspection. Paint was sampled from surfaces considered by the inspector to be most likely to contain lead-based paint. Collected samples were placed into pre-labeled airtight containers and shipped to Quantem Laboratories located in Oklahoma City, Oklahoma for analysis of lead content. Lead sampling not to meet HUD or Oregon Health Authority Guidelines.

6. DISCUSSION & RECOMMENDATIONS

Asbestos-containing material must be removed by a licensed asbestos abatement contractor prior to any renovation, demolition or repair work that will impact those material.

Any material encountered that are not specifically mentioned in this report should be considered asbestos containing until sufficient sampling has been completed to determine that these materials are non-asbestos containing.

The Occupational Safety and Health Administration (OSHA) classify the removal or disturbance of asbestos containing material as Class I and Class II asbestos abatement projects. The removal of asbestos containing material requires the use of appropriate engineering controls, by a contractor licensed by the State of Oregon. The work methods utilized must include the use of wet methods, negative pressure enclosure, and decontamination facility.

OSHA regulations (29 CFR 1926.1001) states that if asbestos containing material, containing <1% asbestos are to be removed by construction personnel, the employer shall provide awareness training, a written respirator protection program, respirators and a negative exposure assessment.

Additionally, OSHA regulations (29 CFR 1926.1101) require employers to meet standards regarding personal protection, labeling, signs, daily air monitoring, use of engineering controls, notification, and respiratory protection for all activities related to the removal or disturbance of asbestos containing building material.

***EPA recommends that bulk material found negative for asbestos or less than one percent asbestos by polarized light microscopy be reanalyzed by and additional method such as transmission electron microscopy.*

Lead-based paint that is in good condition does not necessarily pose a health risk to building occupants. However, if lead-based paint will be disturbed by demolition activities, care must be taken to avoid possible lead exposure to workers or building occupant during the demolition. Employers of workers who may be exposed to lead in the course of their work are required to demonstrate that their employees are not being exposed to lead above the Permissible Exposure Limit (PEL) established by OSHA.

According to the Department of Environmental Quality (DEQ) Policy 1997-PO-002A building demolition debris that may contain lead-based paint can be disposed of at a permitted solid waste landfill which meets current municipal solid waste disposal facility standards per 40 CFR 258 provided other hazardous material have been removed.

7. WARRANTY

Advantage Environmental Inc. warrants that this report has been prepared in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances. No other warranties are implied or expressed.

APPENDIX A
Material Summary Table

455 & 469 N Front St-Woodburn, OR

Material Summary Table

Sample Number	Material Description	Sample Location	Condition if applicable	Asbestos Content
***1A*	*White joint compound*	*#469 Projection Room*		*3% Chrysotile*
	White drywall	*#469 Projection Room*		*Asbestos Not Present*
	Drywall/joint compound composite	*#469 Projection Room*		*<1% Chrysotile*
***1B*	*White joint compound*	*#469 Restroom*		*3% Chrysotile*
	White drywall	*#469 Restroom*		*Asbestos Not Present*
	Drywall/joint compound composite	*#469 Restroom*		*<1% Chrysotile*
***1C*	*White joint compound*	*#469 Theater back wall*		*3% Chrysotile*
	White drywall	*#469 Theater back wall*		*Asbestos Not Present*
	Drywall/joint compound composite	*#469 Theater back wall*		*<1% Chrysotile*
2A	Tan skim coat	#469 Partition wall with #455-in Projection Room		Asbestos Not Present
	White plaster	#469 Partition wall with #455-in Projection Room		Asbestos Not Present
	Gray plaster	#469 Partition wall with #455-in Projection Room		Asbestos Not Present
	Red plaster	#469 Partition wall with #455-in Projection Room		Asbestos Not Present
2B	Light gray skim coat	#455 Rear original wall		Asbestos Not Present
	Gray plaster	#455 Rear original wall		Asbestos Not Present
2C	White skim coat	#455 Partition wall with #469		Asbestos Not Present
	Gray plaster	#455 Partition wall with #469		Asbestos Not Present
2D	White skim coat	#469 Partition wall with #455		Asbestos Not Present
	Tan plaster	#469 Partition wall with #455		Asbestos Not Present
2E	White skim coat	#469 Partition wall below stage		Asbestos Not Present
	Tan plaster	#469 Partition wall below stage		Asbestos Not Present
3A	White popcorn ceiling texture	#469 Theater	Good	3% Chrysotile
3B	White popcorn ceiling texture	#469 Projection Room	Good	3% Chrysotile
3C	White popcorn ceiling texture	#469 Front Room	Good	3% Chrysotile
4A	White/tan 15”x30” ceiling tile	#469 Theater		Asbestos Not Present
4B	White ceiling texture	#469 Theater		Asbestos Not Present
	Brown 15”x30” ceiling tile	#469 Theater-above ceiling texture		Asbestos Not Present
5A	Brown glue dot mastic	#469 Theater		Asbestos Not Present
5B	Brown glue dot mastic	#469 Theater		Asbestos Not Present
5C	Brown glue dot mastic	#469 Theater		Asbestos Not Present

Sample Number	Material Description	Sample Location	Condition if applicable	Asbestos Content
6	Orange/red brick Gray mortar	#469 Partition wall #469 Partition wall-below/beside & above brick		Asbestos Not Present Asbestos Not Present
7	Turquoise/blue ceramic tile Tan grout Gray leveling compound	#455 Front exterior below windows #455 Front exterior below windows-behind tile #455 Front exterior below windows-behind grout		Asbestos Not Present Asbestos Not Present Asbestos Not Present
8	**Tan 9" vinyl floor tile** **Black floor mastic**	**#469 Furnace Room** **#469 Furnace Room-below floor tile**	**Good** **Good**	**8% Chrysotile** **4% Chrysotile**
9	**Brown 9" vinyl floor tile** **Black floor mastic**	**#469 Furnace Room** **#469 Furnace Room-below floor tile**	**Good** **Good**	**6% Chrysotile** **4% Chrysotile**
10	**Yellow floor mastic** **Brown 9" vinyl floor tile** **Black floor mastic**	**#469 Front Room & Hallway-below carpet** **#469 Front Room & Hallway-2nd layer flooring** **#469 Front Room & Hallway-below 2nd layer flooring**	**Good** **Good** **Good**	**<1% Chrysotile** **6% Chrysotile** **4% Chrysotile**
11	Blue/off-white floor vinyl **Black/yellow floor mastic** **Tan vinyl floor tile** **Black floor mastic**	#469 Corner of Front Room **#469 Corner of Front Room-below floor vinyl** **#469 Corner of Front Room-2nd layer flooring** **#469 Corner of Front Room-below 2nd layer flooring**	 **Good** **Good** **Good**	Asbestos Not Present **3% Chrysotile** **8% Chrysotile** **3% Chrysotile**
12	Wood-look/tan floor vinyl Yellow floor mastic	#469 Restroom & Kitchenette #469 Restroom & Kitchenette-below floor vinyl		Asbestos Not Present Asbestos Not Present

**This material is Less than 1% asbestos containing when analyzed as a drywall system-(drywall and joint compound).

APPENDIX B
Laboratory Analytical Results
Chain of Custody

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 288223
Account Number: B513

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Date Received: 12/04/2017
Received By: Karen Braley
Date Analyzed: 12/05/2017
Analyzed By: Cristal Veech
Methodology: EPA/600/R-93/116

Project: 455/469 N. Front St
Project Location: Woodburn, OR
Project Number: N/A

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
001	1A	Layered	White Joint Compound	Asbestos Present Chrysotile 3	NA	CaCO3 Paint
001a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum
001b		Layered	White Joint Compound / Sheetrock	Asbestos Present Chrysotile <1	Cellulose 10	CaCO3 Gypsum Paint
002	1B	Layered	White Joint Compound	Asbestos Present Chrysotile 3	NA	CaCO3 Paint
002a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum
002b		Layered	White Joint Compound / Sheetrock	Asbestos Present Chrysotile <1	Cellulose 10	CaCO3 Gypsum Paint

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 288223
Account Number: B513

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Date Received: 12/04/2017
Received By: Karen Braley
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Project Location: Woodburn, OR
Project Number: N/A

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
003	1C	Layered	White Joint Compound	Asbestos Present Chrysotile 3	NA	CaCO3 Paint
003a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 10	Gypsum
003b		Layered	White Joint Compound / Sheetrock	Asbestos Present Chrysotile <1	Cellulose 10	CaCO3 Gypsum Paint
004	2A	Layered	Tan Skim Coat	Asbestos Not Present	NA	Sand Gypsum Paint
004a		Layered	White Plaster	Asbestos Not Present	Cellulose 3	Gypsum Perlite
004b		Layered	Gray Plaster	Asbestos Not Present	NA	Sand CaCO3 Gypsum

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 288223
Account Number: B513

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Date Received: 12/04/2017
Received By: Karen Braley
Date Analyzed: 12/05/2017
Analyzed By: Cristal Veech
Methodology: EPA/600/R-93/116

Project: 455/469 N. Front St
Project Location: Woodburn, OR
Project Number: N/A

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
004c		Layered	Red Plaster	Asbestos Not Present	NA	Sand Clay
005	2B	Layered	Light Gray Skim Coat	Asbestos Not Present	NA	Sand CaCO3 Gypsum
005a		Layered	Gray Plaster	Asbestos Not Present	NA	Sand Gypsum CaCO3
006	2C	Layered	White Skim Coat	Asbestos Not Present	NA	CaCO3 Paint
006a		Layered	Gray Plaster	Asbestos Not Present	NA	Sand CaCO3 Gypsum
007	2D	Layered	White Skim Coat	Asbestos Not Present	NA	Sand Gypsum Paint

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 288223
Account Number: B513

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Date Received: 12/04/2017
Received By: Karen Braley
Date Analyzed: 12/05/2017
Analyzed By: Cristal Veech
Methodology: EPA/600/R-93/116

Project: 455/469 N. Front St
Project Location: Woodburn, OR
Project Number: N/A

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
007a		Layered	Tan Plaster	Asbestos Not Present	NA	Sand Gypsum Perlite
008	2E	Layered	White Skim Coat	Asbestos Not Present	NA	Sand Gypsum Paint
008a		Layered	Tan Plaster	Asbestos Not Present	NA	Sand Gypsum Perlite
009	3A	Homogeneous	White Ceiling Texture	Asbestos Present Chrysotile 3	NA	CaCO3 Mica Paint
010	3B	Homogeneous	White Ceiling Texture	Asbestos Present Chrysotile 3	NA	CaCO3 Mica Paint
011	3C	Homogeneous	White Ceiling Texture	Asbestos Not Present	NA	CaCO3 Paint

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 288223
Account Number: B513

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Date Received: 12/04/2017
Received By: Karen Braley
Date Analyzed: 12/05/2017
Analyzed By: Cristal Veech
Methodology: EPA/600/R-93/116

Project: 455/469 N. Front St
Project Location: Woodburn, OR
Project Number: N/A

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
012	4A	Homogeneous	White Ceiling Tile	Asbestos Not Present	Cellulose 90	Paint
013	4B	Layered	White Ceiling Texture	Asbestos Not Present	NA	Gypsum CaCO3
013a		Layered	Brown Ceiling Tile	Asbestos Not Present	Cellulose 100	
014	5A	Homogeneous	Brown Mastic	Asbestos Not Present	NA	Glue
015	5B	Homogeneous	Brown Mastic	Asbestos Not Present	NA	Glue
016	5C	Homogeneous	Brown Mastic	Asbestos Not Present	NA	Glue
017	6	Layered	Red Brick	Asbestos Not Present	NA	Sand Clay

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 288223
Account Number: B513

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Date Received: 12/04/2017
Received By: Karen Braley
Date Analyzed: 12/05/2017
Analyzed By: Cristal Veech
Methodology: EPA/600/R-93/116

Project: 455/469 N. Front St
Project Location: Woodburn, OR
Project Number: N/A

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
017a		Layered	Gray Mortar	Asbestos Not Present	NA	Sand CaCO3
018	7	Layered	Blue Ceramic Tile	Asbestos Not Present	NA	Clay
018a		Layered	Tan Grout	Asbestos Not Present	NA	Sand Clay
018b		Layered	Gray Leveling Compound	Asbestos Not Present	NA	Sand Gypsum
019	8	Layered	Tan Floor Tile	Asbestos Present Chrysotile 8	NA	Vinyl CaCO3
019a		Layered	Black Mastic	Asbestos Present Chrysotile 4	NA	Tar

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 288223
Account Number: B513

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Date Received: 12/04/2017
Received By: Karen Braley
Date Analyzed: 12/05/2017
Analyzed By: Cristal Veech
Methodology: EPA/600/R-93/116

Project: 455/469 N. Front St
Project Location: Woodburn, OR
Project Number: N/A

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
020	9	Layered	Brown Floor Tile	Asbestos Present Chrysotile 6	NA	Vinyl CaCO3
020a		Layered	Black Mastic	Asbestos Present Chrysotile 4	NA	Tar
021	10	Layered	Yellow Mastic	Asbestos Present Chrysotile <1	NA	Glue
021a		Layered	Brown Floor Tile	Asbestos Present Chrysotile 6	NA	Vinyl CaCO3
021b		Layered	Black Mastic	Asbestos Present Chrysotile 4	NA	Tar
022	11	Layered	White Sheet Vinyl	Asbestos Not Present	Cellulose 25	Vinyl
022a		Layered	Black/Yellow Mastic	Asbestos Present Chrysotile 3	NA	Tar Glue

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Polarized Light Microscopy Asbestos Analysis Report

QuanTEM Lab No. 288223
Account Number: B513

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Date Received: 12/04/2017
Received By: Karen Braley
Date Analyzed: 12/05/2017
Analyzed By: Cristal Veech
Methodology: EPA/600/R-93/116

Project: 455/469 N. Front St
Project Location: Woodburn, OR
Project Number: N/A

QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
022b		Layered	Tan Floor Tile	Asbestos Present Chrysotile 8	NA	Vinyl CaCO3
022c		Layered	Black Mastic	Asbestos Present Chrysotile 3	NA	Tar
023	12	Layered	Tan Sheet Vinyl	Asbestos Not Present	Cellulose 25	Vinyl
023a		Layered	Yellow Mastic	Asbestos Not Present	NA	Glue

Cristal Veech

Cristal Veech, Analyst

12/5/2017

Date of Report

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

QUANTEM LABORATORIES
www.QuanTEM.com

ASBESTOS CHAIN OF CUSTODY

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502
(800) 822-1650 • (405) 755-7272 • Fax: (405) 755-2058

LEGAL DOCUMENT - PLEASE PRINT LEGIBLY

For Lab Use Only	
Lab No.	288223
	Accept Reject

Contact Information		Project Information		Report Results (☑ one box)	
Company: Advantage Environmental, Inc	Phone: (503) 709-0879	Project Name: 455/469 N. FRONT ST.		☑	QuanTEM Website
Contact: Todd haley	Cell Phone: (503) 522-1369	Project Location: WOODBURN, OR.		☐	Other _____
Account #: B-513	E-mail:	Project ID:			
SAMPLED BY: Name: ERIC NEAL	Date: 12-1-17	P.O. Number:			

RELINQUISHED BY	DATE & TIME	VIA	RECEIVED BY	DATE & TIME
ERIC NEAL	12-1-17	FED EX	K. Bradley	12-4-17 10:30

REQUESTED SERVICES (Please ☑ the Appropriate Boxes)

PLM	PLM	TEM	TEM	TURNAROUND TIME
☑ Bulk Analysis (EPA 600/R-93/116)	☐ Vermiculite Attic Insulation (EPA 600/R-04/004)	☐ Air- AHERA	☐ Bulk- Presence / Absence EPA600/R-93/116	☐ Rush
☐ 400 Point Count	☐ Other	☐ Air- NIOSH 7402	☐ Bulk- Quantitative [weight%]- Chatfield	☐ Same Day
☐ 1000 Point Count	PCM	☐ Air- ISO 10312	☐ Dust- Presence / Absence	☑ 24 - Hour
☐ Gravimetric Preparation	☐ NIOSH 7400	☐ Drinking Water- EPA 100.2	☐ Dust- Quantitative [fibers/sq.cm]- ASTM D5755	☐ 3 - Day
☐ Particle ID		☐ Waste Water- EPA 600/4-83-043	☐ Other	☐ 5 - Day

No.	Sample ID (10 Characters Max)	☑ To Be Analyzed	Color	Description	Volume / Area (as applicable)	Comments / Notes
1	1A	☑	OFF WHITE	DRYWALL/JOINT COMPOUND		PROJECTION ROOM 469
2	1B	☑	GREEN OFFWHITE	"		R.R. 469
3	1C	☑	BLUE	"		BACK WALL, THEATER 469
4	2A	☑	GRAY/WHITE	PLASTER & BRICK MORTAR		PARTITION WALL - PROJ. ROOM
5	2B	☑	"	PLASTER & ~~BRICK~~ MORTAR ~~W~~/OR MORTAR		~~PARTITION WALL~~ 455 BACK ORIGINAL WALL ~~PROJECTION RM~~
6	2C	☑	"	~~PARTITION WALL~~		PARTITION WALL 455 SIDE
7	2D	☑	"	PLASTER		" 469 SIDE
8	2E	☑	"	"		" AND/OR STAGE
9	3A	☑	WHITE	CEILING TEXTURE - POPCORN ~46½'x20'		THEATER 469
10	3B	☑	"	" ~2 10'x10'		PROJ. ROOM

SATURDAY SAMPLE DELIVERY - CALL TO SCHEDULE • Use this address for Saturday Delivery only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517 • Mark Package "Hold for Saturday Pickup"

QUANTEM LABORATORIES
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ASBESTOS CHAIN OF CUSTODY

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(800) 822-1650 • (405) 755-7272 • Fax: (405) 755-2058

LEGAL DOCUMENT - PLEASE PRINT LEGIBLY

For Lab Use Only
Lab No. 288223
Accept Reject

Project Information

Company: Advantage Environmental | Project Name: 455/469 N FRONT ST. | Project Location: WOODBURN, OR

No.	Sample ID (10 Characters Max)	☑ To Be Analyzed	Color	Description	Volume / Area (as applicable)	Comments / Notes
11	3C	☒	WHITE	CEILING TEXTURE - POPCORN	~27½'x20'	FRONT RM 469
12	4A	☒	WHITE/TAN MT.	CEILING TILE 15"x30"		THEATER "
13	4B	☒	"	" "		" "
14	5A	☒	BROWN	GLUE DOTS - (FOR CEILING TILES)	46½'x20'	THEATER "
15	5B	☒	"	"		"
16	5C	☒	"	"		"
17	6	☒	ORANGE/GREY	BRICK & MORTER		PARTITION WALL
18	7	☒	TURQUOISE	CERAMIC TILE		FRONT EXT. BELOW WINDOWS
19	8	☒	TAN	9"x9" FLOOR TILE	~10'x12'	~~FURNACE RM~~
20	9	☒	BROWN	" "		
21	10	☒	"	" "		FRONT RM 469 & HALL UNDER CARPET
22	11	☒	BLUE OFF WHITE	SHEET FLOORING & SUB TILE	~6'x9'	CORNER OF FRONT RM 469
23	12	☒	WOOD LOOK	SHEET FLOORING	~6'x5½'	R.R. (ALSO KITCHENETTE) ~~6'x11'~~
24		☐				
25		☐				
26		☐				
27		☐		POPCORN CEILING TEXTURE ONLY IN 469 (~~14'~~ X 20')		
28		☐				
29		☐				
30		☐				

SATURDAY **FEDEX** SAMPLE DELIVERY - CALL TO SCHEDULE • Use this address for Saturday Delivery only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517 • Mark Package "Hold for Saturday Pickup"
Please Note - UPS and USPS are **NOT** available for Saturday Delivery

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Environmental Chemistry Analysis Report

QuanTEM Set ID: 288199
Date Received: 12/04/17
Received By: Sherrie Leftwich
Date Sampled:
Time Sampled:
Analyst: CR
Date of Report: 12/05/17

AIHA ID: 101352

Client: Advantage Environmental, Inc.
P.O. Box 1026
Camas, WA 98607

Acct. No.: B513

Project: 455/469 N. Front St.
Location: Woodburn, OR
Project No.: N.A

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	PB-1	Paint	Lead	107	50	ppm	12/04/17 15:22	P EPA 7000B (1)
002	PB-2	Paint	Lead	<49.6	49.6	ppm	12/04/17 15:22	P EPA 7000B (1)
003	PB-3	Paint	Lead	164	49.8	ppm	12/04/17 15:22	P EPA 7000B (1)
004	PB-4	Paint	Lead	115	48.8	ppm	12/04/17 15:22	P EPA 7000B (1)
005	PB-5	Paint	Lead	<52.7	52.7	ppm	12/04/17 15:22	P EPA 7000B (1)
006	PB-6	Paint	Lead	<49.8	49.8	ppm	12/04/17 15:22	P EPA 7000B (1)

Authorized Signature: _____

Cherry Rossen, Technical Manager

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission. QuanTEM is not responsible for user-supplied data used in calculations.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.

EPA Method 7000B (1) = EPA 600/R-93/200 Preparation Modified. EPA 7000B Analysis Modified

EPA Method 7082 (2) = EPA 600/R-93/200 Preparation Modified. EPA 7082 Analysis Modified

Supplemental Report
QAQC Results

QA ID: 15839 **Date:** 12/4/2017 **Lab Number:** 288199
Test: Lead **Matrix:** Paint **Approved By:** Cherry Rossen
Date Approved:

Notes:

Blank Data:

Type of Blank	Blank Value
FCB	0
ICB	0
Matrix Blank	0

Standards Data:

Standard	Low Limit	Obtained	High Limit
CCV	4.5	5	5.5
FCV	4.5	4.8	5.5
ICV	0.9	1	1.1
RLVS	0.05	0.12	0.15

Duplicate Data:

Recovery Data:

Sample Number	Result	Spike Level	Result + Spike	% Recovery	Dup. Result + Spike	% Dup. Recovery	% Spike RPD
LCS-P1	0.000	2.002	1.873	93.6	1.991	99.5	6.1
288187-001	0.075	2.000	1.945	93.5			

Authorized Signature: Cherry Rossen

Cherry Rossen, Technical Manager

LEAD CHAIN OF CUSTODY

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2033 Heritage Park Drive, Oklahoma City, OK 73120-7502
(800) 822-1650 • (405) 755-7272 • Fax: (405) 755-2058

LEGAL DOCUMENT - PLEASE PRINT LEGIBLY

For Lab Use Only
Lab No. 288199
(Accept) Reject

Contact Information		Project Information		Report Results (☑ one box)	
Company: Advantage Environmental Inc	Phone: (503) 709-0879	Project Name: 455/469 N. FRONT ST		✓	QuanTEM Website
Contact: Todd Haley	Cell Phone: (503) 522-1369	Project Location: WOODBURN, OR.			Other _____
Account #: B-513	E-mail:	Project ID:			

Sampled By: Name: ERIC NEAL Date: 12-1-17

RELINQUISHED BY	DATE & TIME	VIA	RECEIVED BY	DATE & TIME
ERIC NEAL	12-1-17	Fed X	SKeftwich	12/4/17 10:30

REQUESTED SERVICES (Please ☑ the Appropriate Boxes)

No.	Sample ID (10 Characters Max)	Sample Description	Volume (Liters)	Volume Area (Length x Width)	Sample Matrix (see matrix code box)	Analysis: Pb	Units (☑ ONE box only): PPM	Wt %	mg / l	µg /ft²	µg / m³	mg / cm²
1	PB-1	BLACK EXT. TRIM		2 SQ IN.	B	X	X					
2	PB-2	WHITE EXT TRIM		4	B	X	X					
3	PB-3	RED EXT DOOR		4	B	X	X					
4	PB-4	BLUE INT. WALL		4	B	X	X					
5	PB-5	WHITE INT TRIM		4	B	X	X					
6	PB-6	PALE GREEN INT WALL & TRIM		4	B	X	X					
7												
8												
9												
10												
11												
12												

Sample Matrix Codes	
A	Soil
B	Paint Chips
C	Surface / Dust Wipes
D	Bulk Miscellaneous
E	Air Cassette

TURNAROUND TIME	
	Same Day
✓	24 - Hour
	3 - Day
	5 - Day

SATURDAY SAMPLE DELIVERY - CALL TO SCHEDULE • Use this address for Saturday Delivery only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517 • Mark Package "Hold for Saturday Pickup"

APPENDIX C
AHERA Building Inspector Certification

THIS IS TO CERTIFY THAT

ERIC D NEIL

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

ASBESTOS INSPECTOR REFRESHER

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 01/20/2017

Course Location: Portland, OR

Certificate: IR-17-5006B

PBS | Engineering + Environmental

Refresher Training Held Online

Expiration Date: 01/20/2018

For verification of the authenticity of this certificate contact:
PBS Environmental
4412 SW Corbett Avenue
Portland, OR 97239
(503) 248-1939

Gregory M. Baker

Greg Baker, Instructor

ADVANTAGE Environmental INC.

LIMITED ASBESTOS BUILDING MATERIAL SURVEY

Conducted at:
455 & 469 N Front St
Woodburn, OR

Conducted for:
City of Woodburn
190 Garfield St
Woodburn, OR 97071

Prepared By:
Advantage Environmental Inc.
9317 NE Hwy 99, Suite A
Vancouver, WA 98665

ADVANTAGE Environmental INC.

Clean your world.

May 7, 2018

City of Woodburn
Pete Gaither – Project Engineer
190 Garfield St
Woodburn, OR 97071
503-980-2429
971-563-3840
Pete.Gauthier@ci.woodburn.or.us

RE: Limited Asbestos Building Material Survey: 455 & 469 N Front St-Woodburn, OR

Dear Mr. Gaither,

Per your request, Advantage Environmental, Inc. (AEI) has conducted a limited asbestos building material survey of suspect roofing material of the structures located at 455 & 469 N Front St in Woodburn, OR. The results of the survey are provided in the accompanying report.

Thank you for choosing AEI for this project. Please feel free to contact us at (360) 356-7628 if you have any questions.

Respectfully,
Advantage Environmental, Inc.

Pete Coleman
Office Manager

1. INTRODUCTION

Advantage Environmental, Inc. was retained by The City of Woodburn to perform a limited asbestos building material survey of suspect roofing materials on the structures located at 455 & 469 N Front St in Woodburn, OR. The on-site inspection was performed by EPA/AHERA accredited building inspector Eric Neal on April 24, 2018.

2. BUILDING DESCRIPTION

The structures are a brick and mortar commercial structures currently occupied by the City of Woodburn Museum locations. Interior walls, ceilings and flooring were not sampled at the time of surveying as the scope of surveying was limited to roofing. The structures are on a concrete foundation.

3. PURPOSE AND SCOPE

The purpose of this survey was to identify the location of asbestos containing materials prior to renovation and disposal of roofing materials of specific work areas of the structures. The scope of work included a walk-through inspection of the roofs, bulk sampling and analysis of specific suspect asbestos materials with a written report documenting the results of the survey. This survey was limited to the materials identified within appendix A.

This is not a bidding document and all quantities of asbestos containing material should be verified by the abatement contractor prior to submitting their bid.

4. VISUAL ASSEMENT AND FINDINGS

Our survey activities began with visual observation of the exterior roofs of the structures to identify homogeneous areas of suspect asbestos containing materials. Interior assessments were conducted throughout visually accessible areas of the building.

Building materials identified as concrete, glass, wood, masonry, metal or rubber were not considered suspect asbestos containing material.

Unidentified asbestos-containing materials may be in place behind walls, ceilings, under floors, beneath carpeted areas, areas thought not to be deemed necessary at the time of inspection and in other inaccessible areas.

A table indicating sample numbers, material description, material location, material condition and asbestos content of each material sampled is included in Appendix A. Laboratory analytical results and chain of custody documentation are included in Appendix B. AHERA Building inspector credentials are included in Appendix C.

Additional asbestos-containing material may be in place behind/beneath floors, wall ceiling, debris or in areas deemed unnecessary at the time of inspection by the property owner/representative.

Suspect asbestos-containing building material sampled and analyzed included:

- Silver coat
- Black roofing
- Black tar
- Black tar paper
- Brown roofing paper
- Brown/tan tar paper

Of the suspect asbestos-containing materials sampled, laboratory analysis indicated the following material contained asbestos content of 1% or greater. These materials will need to be removed prior to disturbance, construction or demolition activities that may impact these materials.

Material Type	**Material Location**	**Approximate Quantity****	**Friable Yes / No**
Black tar, black tar paper & brown/tan tar paper	Suite 455-Bottom layers of roofing-(tan paper friable)	~1,800 sq. ft.	Friable
Black tar	Suite 469-3rd layer of roofing below silver roof coating	~1,900 sq. ft.	No

***Note**: A diligent inspection was conducted and every effort was made to inspect and investigate all areas of the aforementioned building(s). However, unidentified asbestos-containing material may still be in place behind walls, under floors, cabinets, above ceilings, etc., and/or in other areas of the structure inspected that were inaccessible/not included at the time of this survey.*

***Quantities based on visual observations at time of inspection, additional quantities may be in concealed areas. All quantities should be verified prior to removal.*

5. SAMPLING METHODOLOGY

A walk-through of the exterior roofs of the structures was conducted by an EPA/AHERA accredited building inspector to identify the location of suspect asbestos-containing material. The location, approximate quantity and condition of each material were recorded on field data sheets. Bulk samples of each suspect material were then collected and submitted to the laboratory under chain of custody documentation for analysis of asbestos content.

Samples were collected from selected homogeneous roofing material in-order-to evaluate the presence or absence of asbestos in each material. Determination of homogeneous material included material type, texture, pattern, color, and size. A total of 55 suspect asbestos-containing material samples were analyzed including sub-layers.

All samples collected by AEI were placed into pre-labeled airtight containers and brought to AEI's Laboratory for analysis of asbestos content. AEI's Laboratory analyzed the samples using Polarized Light Microscopy (PLM) with dispersion staining to identify asbestos constituents as required by EPA regulation 40 CFR, Part 763.

6. DISCUSSION & RECOMMENDATIONS

Asbestos-containing material must be removed by a licensed asbestos abatement contractor prior to any renovation, demolition or repair work that will impact those material.

Any material encountered that are not specifically mentioned in this report should be considered asbestos containing until sufficient sampling has been completed to determine that these materials are non-asbestos containing.

The Occupational Safety and Health Administration (OSHA) classify the removal or disturbance of asbestos containing material as Class I and Class II asbestos abatement projects. The removal of asbestos containing material requires the use of appropriate engineering controls, by a contractor licensed by the State of Oregon. The work methods utilized must include the use of wet methods, negative pressure enclosure, and decontamination facility.

OSHA regulations (29 CFR 1926.1001) states that if asbestos containing material, containing <1% asbestos is to be removed by construction personnel, the employer shall provide awareness training, a written respirator protection program, respirators and a negative exposure assessment.

Additionally, OSHA regulations (29 CFR 1926.1101) require employers to meet standards regarding personal protection, labeling, signs, daily air monitoring, use of engineering controls, notification, and respiratory protection for all activities related to the removal or disturbance of asbestos containing building material.

***EPA recommends that bulk material found negative for asbestos or less than one percent asbestos by polarized light microscopy be reanalyzed by and additional method such as transmission electron microscopy.*

7. WARRANTY

Advantage Environmental Inc. warrants that this report has been prepared in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances. No other warranties are implied or expressed.

APPENDIX A
Material Summary Table

455 & 469 N Front St-Woodburn, OR

Material Summary Table

Sample Number	Material Description	Sample Location	Condition if applicable	Asbestos Content
R1A (Top Layer)	Silver coat	Backend of #455 on Flat Roof		Asbestos Not Present
R1A (Top Layer)	Black roofing	Backend of #455 on Flat Roof-below silver coat		Asbestos Not Present
R1A (Top Layer)	Black tar	Backend of #455 on Flat Roof-below roofing		Asbestos Not Present
R1A (Top Layer)	Black tar paper	Backend of #455 on Flat Roof-below tar		Asbestos Not Present
R1A (Top Layer)	Silver coat	Backend of #455 on Flat Roof-2nd layer roof		Asbestos Not Present
R2A (Middle Layer)	Black tar	Backend of #455 on Flat Roof-below 2nd layer silver coat		Asbestos Not Present
R2A (Middle Layer)	Black roofing	Backend of #455 on Flat Roof-below 2nd layer tar		Asbestos Not Present
R2A (Middle Layer)	Brown roofing paper	Backend of #455 on Flat Roof-below 2nd layer roofing		Asbestos Not Present
R2A (Middle Layer)	Silver coat	Backend of #455 on Flat Roof-3rd layer roof		Asbestos Not Present
R3A (Bottom Layer)	**Black tar**	**Backend of #455 on Flat Roof-below 3rd layer silver coat**	**Good**	**5% Chrysotile**
R3A (Bottom Layer)	**Black tar paper**	**Backend of #455 on Flat Roof-below 3rd layer tar**	**Good**	**40% Chrysotile**
R3A (Bottom Layer)	**Brown/tan tar paper**	**Backend of #455 on Flat Roof-below 3rd layer tar paper**	**Good**	**40% Chrysotile**
R1B (Top Layer)	Silver coat	1/3 From Front #469 on Flat Roof		Asbestos Not Present
R1B (Top Layer)	Black roofing	1/3 From Front #469 on Flat Roof-below silver coat		Asbestos Not Present
R1B (Top Layer)	Black tar	1/3 From Front #469 on Flat Roof-below roofing		Asbestos Not Present
R1B (Top Layer)	Black tar paper	1/3 From Front #469 on Flat Roof-below tar		Asbestos Not Present
R1B (Top Layer)	Silver coat	1/3 From Front #469 on Flat Roof-2nd layer roofing		Asbestos Not Present
R1B (Top Layer)	Black tar	1/3 From Front #469 on Flat Roof-below 2nd layer silver coat		Asbestos Not Present
R1B (Top Layer)	Black roofing	1/3 From Front #469 on Flat Roof-below 2nd layer tar		Asbestos Not Present
R1B (Top Layer)	Brown roofing paper	1/3 From Front #469 on Flat Roof-below 2nd layer roofing		Asbestos Not Present
R2B (Middle Layer)	Silver coat	1/3 From Front #469 on Flat Roof-3rd layer roof		Asbestos Not Present
R2B (Middle Layer)	Black tar	1/3 From Front #469 on Flat Roof-below 3rd layer silver coat		Asbestos Not Present
R2B (Middle Layer)	Black tar paper	1/3 From Front #469 on Flat Roof-below 3rd layer tar		Asbestos Not Present
R2B (Middle Layer)	Black tar	1/3 From Front #469 on Flat Roof-below 3rd layer tar paper		Asbestos Not Present
R2B (Middle Layer)	Black roofing	1/3 From Front #469 on Flat Roof-below 3rd layer tar		Asbestos Not Present
R3B (Bottom Layer)	Silver coat	1/3 From Front #469 on Flat Roof-4th layer roof		Asbestos Not Present
R3B (Bottom Layer)	**Black tar**	**1/3 From Front #469 on Flat Roof-below silver coat**	**Good**	**6% Chrysotile**
R3B (Bottom Layer)	Black tar paper	1/3 From Front #469 on Flat Roof-below 4th layer tar		Asbestos Not Present
R3B (Bottom Layer)	Black tar	1/3 From Front #469 on Flat Roof-below 4th layer tar paper		Asbestos Not Present
R3B (Bottom Layer)	Black roofing	1/3 From Front #469 on Flat Roof-below 4th layer tar		Asbestos Not Present

455 & 469 N Front St-Woodburn, OR

Material Summary Table
(continued)

Sample Number	Material Description	Sample Location	Condition if applicable	Asbestos Content
R1C (Top Layer)	Silver coat	Backend of #469 on Flat Roof		Asbestos Not Present
R1C (Top Layer)	Black roofing	Backend of #469 on Flat Roof-below silver coat		Asbestos Not Present
R1C (Top Layer)	Black tar	Backend of #469 on Flat Roof-below roofing		Asbestos Not Present
R1C (Top Layer)	Black tar paper	Backend of #469 on Flat Roof-below tar		Asbestos Not Present
R1C (Top Layer)	Silver coat	Backend of #469 on Flat Roof-2nd layer roof		Asbestos Not Present
R1C (Top Layer)	Black tar	Backend of #469 on Flat Roof-below 2nd layer silver coat		Asbestos Not Present
R1C (Top Layer)	Black roofing	Backend of #469 on Flat Roof-below 2nd layer roofing		Asbestos Not Present
R1C (Top Layer)	Brown roofing paper	Backend of #469 on Flat Roof-below 2nd layer roofing		Asbestos Not Present
R2C (Middle Layer)	Silver coat	Backend of #469 on Flat Roof-3rd layer roof		Asbestos Not Present
R2C (Middle Layer)	Black tar	Backend of #469 on Flat Roof-below 3rd layer silver coat		Asbestos Not Present
R2C (Middle Layer)	Black roofing	Backend of #469 on Flat Roof-below 3rd layer tar		Asbestos Not Present
R2C (Middle Layer)	Brown roofing paper	Backend of #469 on Flat Roof-below 3rd layer roofing		Asbestos Not Present
R3C (Bottom Layer)	Black tar	Backend of #469 on Flat Roof-below 3rd layer roofing paper		Asbestos Not Present
R3C (Bottom Layer)	Black roofing	Backend of #469 on Flat Roof-below 3rd layer tar		Asbestos Not Present
R3C (Bottom Layer)	Black tar	Backend of #469 on Flat Roof-below 3rd layer roofing		Asbestos Not Present
M1A	Black tar	South Divide Flashing		Asbestos Not Present
M1B	Black tar	#455 & #469 Front Edge Divide		Asbestos Not Present
M2A	Black tar	South Divide of #455		Asbestos Not Present
M2B	Black tar	Front Edge of Divide of #455 & #469		Asbestos Not Present
M3A	Silver coat	Front of #469 North Post		Asbestos Not Present
	Black tar	Front of #469 North Post-below silver coat		Asbestos Not Present
M3B	Silver coat	Front of #469 South Post		Asbestos Not Present
	Black tar	Front of #469 South Post-below silver coat		Asbestos Not Present
S-1	Black roofing	Sloped Roof across backside of #455 & #469		Asbestos Not Present
	Brown roofing paper	Sloped Roof across backside of #455 & #469-below roofing		Asbestos Not Present

APPENDIX B
Laboratory Analytical Results
Chain of Custody

ADVANTAGE Environmental INC.

Clean your world.

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Polarized Light Microscopy Results

Lab No: 119156

Property Address: 455/469 North Front St
City, State, Zip: Woodburn, OR

Date Received: 4/25/2018
Received By: Bekah Barnes
Date Analyzed: 4/27/2018
Analyzed By: Sidney Carter

Client Name: City of Woodburn - Pete Gaither
Client Address: 190 Garfield St
City, State, Zip: Woodburn, OR 97071
Phone & E-mail: 503-980-2429 - Pete.Gauthier@ci.woodburn.or.us

AEI Sample ID	Client Sample ID	Composition	Color/ Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
001	R1A	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
001A		Layered	Black Roofing	Asbestos Not Present	40% Glass Fiber	Tar
001B		Layered	Black Tar	Asbestos Not Present	N/A	Tar
001C		Layered	Black Tar Paper	Asbestos Not Present	40% Glass Fiber	Tar
002	R2A	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
002A		Layered	Black Tar	Asbestos Not Present	N/A	Tar
002B		Layered	Black Roofing	Asbestos Not Present	60% Glass Fiber	Tar
002C		Layered	Brown Roofing Paper	Asbestos Not Present	40% Cellulose	Tar
003	R3A	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
003A		Layered	Black Tar	5% Chrysotile	N/A	Tar
003B		Layered	Black Tar Paper	40% Chrysotile	N/A	Tar
003C		Layered	Brown/Tan Tar Paper	40% Chrysotile	N/A	Tar
004	R1B	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
004A		Layered	Black Roofing	Asbestos Not Present	40% Glass Fiber	Tar
004B		Layered	Black Tar	Asbestos Not Present	N/A	Tar
004C		Layered	Black Tar Paper	Asbestos Not Present	40% Glass Fiber	Tar
005	R2B	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
005A		Layered	Black Tar	Asbestos Not Present	N/A	Tar
005B		Layered	Black Roofing	Asbestos Not Present	60% Glass Fiber	Tar

Polarized Light Microscopy Results

Lab No: 119156

Property Address: 455 & 469 North Front Street, Woodburn, OR

AEI Sample ID	Client Sample ID	Composition	Color/ Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
005C		Layered	Brown Roofing Paper	Asbestos Not Present	40% Cellulose	Tar
006	R3B	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
006A		Layered	Black Tar	6% Chrysotile	N/A	Tar
006B		Layered	Black Tar Paper	Asbestos Not Present	40% Glass Fiber	Tar
006C		Layered	Black Tar	Asbestos Not Present	N/A	Tar
006D		Layered	Black Roofing	Asbestos Not Present	60% Cellulose	Tar
007	R1C	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
007A		Layered	Black Roofing	Asbestos Not Present	40% Glass Fiber	Tar
007B		Layered	Black Tar	Asbestos Not Present	N/A	Tar
007C		Layered	Black Tar Paper	Asbestos Not Present	40% Glass Fiber	Tar
008	R2C	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
008A		Layered	Black Tar	Asbestos Not Present	N/A	Tar
008B		Layered	Black Roofing	Asbestos Not Present	60% Glass Fiber	Tar
008C		Layered	Brown Roofing Paper	Asbestos Not Present	40% Cellulose	Tar
009	R3C	Layered	Black Tar	Asbestos Not Present	N/A	Tar-Sand
009A		Layered	Black Roofing	Asbestos Not Present	30% Cellulose	Tar
009B		Layered	Black Tar	Asbestos Not Present	20% Cellulose	Tar
010	M1A	Homogeneous	Black Tar	Asbestos Not Present	N/A	Tar
011	M1B	Homogeneous	Black Tar	Asbestos Not Present	N/A	Tar
012	M2A	Homogeneous	Black Tar	Asbestos Not Present	N/A	Tar
013	M2B	Homogeneous	Black Tar	Asbestos Not Present	10% Synthetic Fiber	Tar
014	M3A	Layered	Silver Coat	Asbestos Not Present	N/A	Paint

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Polarized Light Microscopy Results

Lab No: 119156

Property Address: 455 & 469 North Front Street Woodburn, OR

AEI Sample ID	Client Sample ID	Composition	Color/ Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
014A		Layered	Black Tar	Asbestos Not Present	N/A	Tar
015	M3B	Layered	Silver Coat	Asbestos Not Present	N/A	Paint
015A		Layered	Black Tar	Asbestos Not Present	N/A	Tar
016	S-1	Layered	Black Roofing	Asbestos Not Present	25% Glass Fiber	Sand-Tar
016A		Layered	Brown Roofing Paper	Asbestos Not Present	40% Cellulose	Tar

1 of 2

ADVANTAGE Environmental INC.

ASBESTOS CHAIN OF CUSTODY

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LEGAL DOCUMENT - PLEASE PRINT LEGIBLY

Lab Use Only	
Lab No.	119156
Accept	*Reject*

AHERA Inspector / Sampled By		Project Information	
Date:	4-24-2018	Project Name:	CITY OF WOODBURN
Name:	ERIC NEAL	Project Location:	455/469 N. FRONT ST.
Phone:	(971) 865-6174	Project ID:	WOODBURN, OR
Email:		P.O. Number:	

RELINQUISHED BY	DATE & TIME	VIA	RECEIVED BY	DATE & TIME
ERIC NEAL	4-24-18	ERIC NEAL	Bekah Barnes	4/25/18

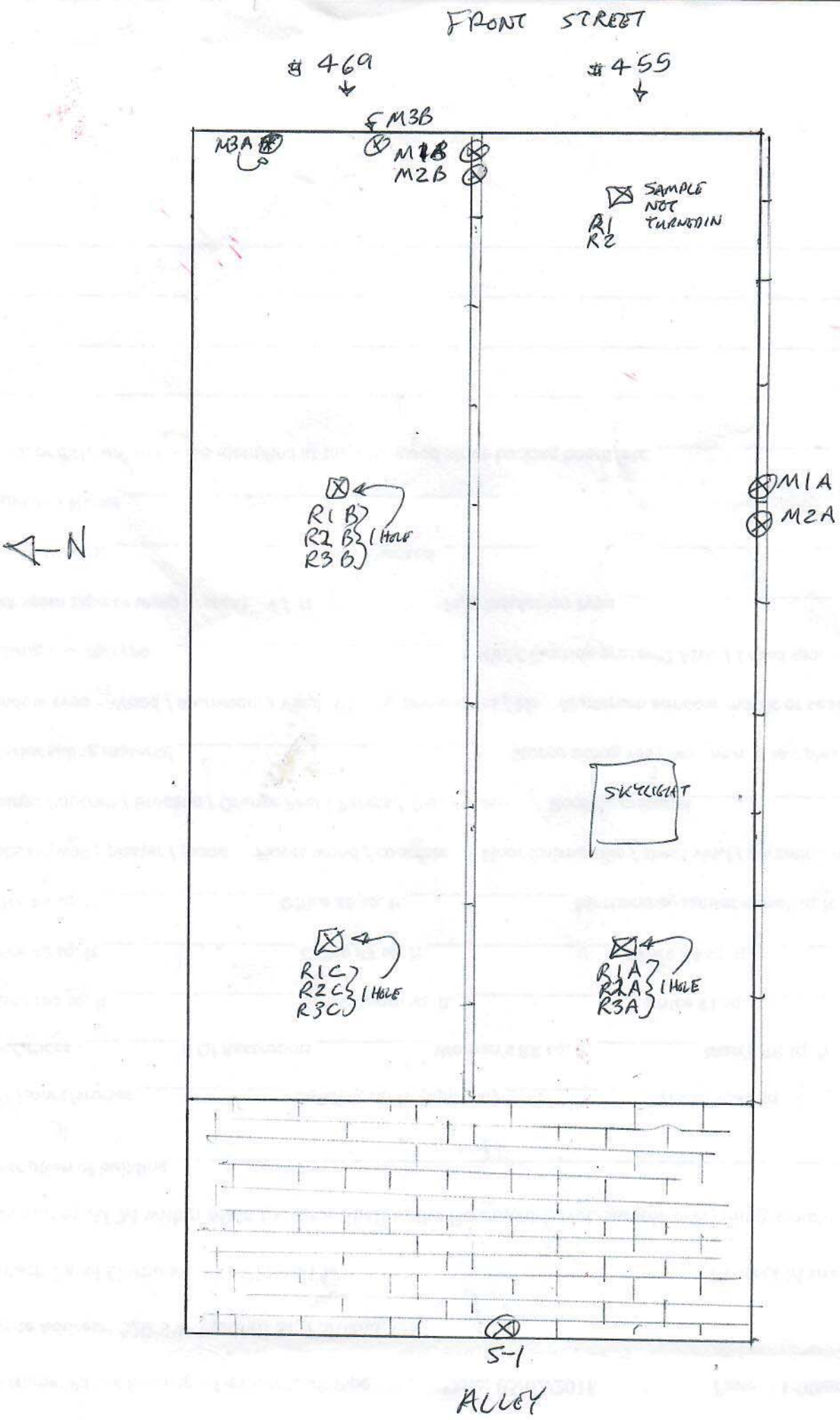
REQUESTED SERVICES

PLM	TURNAROUND TIME
Bulk Analysis	☐ Verbal ☐ Rush ☐ Same Day ☐ 24-Hour ☐ 3-Days

No.	Sample ID	Color	Description	Volume / Area (as applicable)	Comments / Notes
1	R1A	SILVER/BLACK	ROLLED/BUILT UP ROOFING TOP	~4,800 SF	BACKEND 455 FLAT ROOF
2	R2A	SILVER/BLACK	" CENTER		" "
3	R3A	BLACK	" BOTTOM		" "
4	R1B	SILVER/BLACK	" TOP	~1,900 SF	1/3 FROM FRONT 469 FLAT ROOF
5	R2B	SILVER/BLACK	" CENTER		" "
6	R3B	BLACK	" BOTTOM		" "
7	R1C	SILVER/BLACK	" TOP		BACKEND 469 FLAT ROOF
8	R2C	SILVER/BLACK	" CENTER		" "
9	R3C	BLACK	" BOTTOM		" "
10	M1A	BLACK	TAR PATCH/MASTIC	~350'	SOUTH DIVIDE FLASHING

Company: CITY OF WOODBURN | Project Name: 455/469 N. FRONT ST | Project Location: WOODBURN, OR.

No.	Sample ID	Color	Description	Volume / Area (as applicable)	Comments / Notes
11	M1-B	BLACK	TAR PATCH/MASTIC		FRONT EDGE DIVIDE 455/469
12	M2-A	DK GRAY	" "	~250'	SOUTH DIVIDE 455
13	M2-B	DK GRAY	" "		FRONT EDGE DIVIDE 455/469
14	M3-A	SILVER & BLACK	PATCH/TAR/ALUMINUM PAINT	~100'	NORTH POST-FRONT 469
15	M3-B	SILVER & BLACK	"		SOUTH POST-FRONT 469
16	S-1	BLACK	ARCHITECTURAL ROOFING & FELT	~450 SF	SLOPED ROOF ACROSS BACK 455 & 469
17					
18					
19			MASTIC/TAR SAMPLES ARE		ALSO AT APP. VENT/PIPES,
20			2 SQUARE RAISED AREAS,		FRONT EDGE,
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					


FRONT STREET
469
455
M3B
M3A
M1B
M2B
SAMPLE NOT TURNED IN
R1
R2
M1A
M2A
N
R1 B
R2 B
R3 B
1 HOLE
SKYLIGHT
R1 C
R2 C
R3 C
1 HOLE
R1 A
R2 A
R3 A
1 HOLE
S-1
ALLEY

APPENDIX C
AHERA Building Inspector Certification

THIS IS TO CERTIFY THAT

ERIC D NEAL

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

ASBESTOS INSPECTOR REFRESHER

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 01/05/2018

Course Location: Portland, OR

Certificate: IR-18-5006B

PBS

AHERA is the Asbestos Hazard Emergency Response Act enacting Title II of Toxic Substance Control Act (TSCA)

Expiration Date: 01/05/2019

For verification of the authenticity of this certificate contact:
PBS Environmental
4412 SW Corbett Avenue
Portland, OR 97239
(503) 248-1939

Gregory M. Baker

Greg Baker, Instructor

A-TECH/NORTHWEST, INC.
ROOF CONSULTING, MOISTURE TESTING & ANALYSIS

ROOF INSPECTION REPORT

(Limited Visual Inspection)

Conducted For:

CITY OF WOODBURN

190 Garfield Street
Woodburn, Oregon

Facility Inspected:

MUSEUM – BUNGALOW THEATER
445 & 469 N. Front

Woodburn, Oregon

Project Number: 12089

September 11, 2012

A-TECH/NORTHWEST, INC. • 2501 NW Gerke Rd. • Prineville, OR 97754 • www.atechnorthwest.com
Portland Office Phone: 503-628-2882 • Fax: 503-266-2428 • Toll-Free: 1-888-916-5100

A-TECH/NORTHWEST, INC.
ROOF CONSULTING, MOISTURE TESTING & ANALYSIS

ROOF INSPECTION REPORT

(Limited Visual Inspection)

Inspection Date: September 11, 2012
Project #: 12089

Inspection #: V-01
Report Date: 11/14/12
RMS Reference #: n/a

Company: **CITY OF WOODBURN**
190 Garfield Street
Woodburn, OR 97071

Attn: Dan Brown
Public Works Director
Woodburn Public Works
503/ 982-5429
503/ 982-5242 *(fax)*

Inspected Facility: **CITY OF WOODBURN**
Museum – Bungalow Theater
445 & 469 N. Front
Woodburn, Oregon

Present at Inspection:

Pete Gauthier	City of Woodburn
David Anderson.....	A-Tech/Northwest, Inc.
Doug Coddington	A-Tech/Northwest, Inc.

PART I - GENERAL:

A. PURPOSE OF INSPECTION:

1. This visual inspection was conducted to investigate the roofs on this facility in order to determine the roof type, configuration/number, square footage, condition, problems, and other items and develop a condition report. This report shall include the available information from this inspection and short and long term recommendations based on our experience with similar roof systems/conditions.
   a. One *(1)* core sample was cut at Roof A to determine the general roof construction/component data.
2. The following is a summary review of the results of this inspection.

B. GENERAL - *(Type and Existing Condition Review)*:

1. Roof Type*(s)* General Comment: There are two *(2)* types of roof systems on this facility. Roofs A & B are built-up roof systems and Roof C is a single-ply roof system.
   a. Refer to Roof System Information within this report for detailed system information.
2. For the purpose of this report and as a clarification when discussing, the roof has been given letter designations *("A"), ("B")* for ease of discussion of the particular roof and for the eventual development of roof maintenance directives, specifications, etc. applicable to a particular roof assembly.
   a. A designated roof *(roof area A, B, etc.)*, as defined by this report, is determined by a roof area that is closed with defined perimeter edges at all four perimeters *(E, W, N, S)*.

3. Condition Statement – General Overview:

   a. Roofs A & B:

      (1) The built-up roofs on this facility, based on the visual inspection, are considered to be in fair condition. These roofs are a roof over roof assembly. It is reported that the recover roof *(top)* is approximately twenty *(20)* years old. Based on age alone, this roof system is considered to have approximately one *(1)* to three *(3)* years of its original life expectancy remaining. This type of assembly *(configuration)* is rated as a twenty *(20)* year system.

      (2) The built-up roofs on this facility are considered to be currently manageable for a short period of time; however, minor maintenance and cleaning is required. With proper maintenance, the life of the roof on this facility should meet and/or exceed expectations.

   b. Roof C:

      (1) The shingle roof on this facility, based on the visual inspection, is considered to be in good to fair condition. It is estimated that the roof is approximately fifteen *(15)* years old. Based on age alone, this roof system is considered to have approximately four *(4)* to six *(6)* years of its original life expectancy remaining. This type of assembly *(configuration)* is rated as a twenty *(20)* year system.

      (2) The shingle roof on this facility is considered to be currently manageable; however, minor maintenance and cleaning is required. With proper maintenance, the life of the roof on this facility should meet and/or exceed expectations.

   c. Refer to the report for specific discussions applicable to the individual roofs.

PART II - GENERAL:

A. ROOF SYSTEM INFORMATION:

1. ROOFS A & B:

a.	*Roof Type:*	Built-up roof
b.	*Membrane*:.....	Smooth surface with aluminum coating
c.	*Bitumen Type:*.....	Asphalt
d.	*Insulation:*	None above roof deck
e.	*Deck:*.....	Wood
f.	*Slope:*.....	Approximately 2:12
g.	*Age*:	Recover 1992 *(20 years)*
h.	*Condition:*.....	Fair
i.	*Remaining Life Expectancy:*	1 to 3 years w/maintenance
j.	*Problems Noted:*	Nothing major noted at this time. - Voids in previous mastic repairs - moderate - Holes in membrane - moderate - Past interior leakage reported - minor - Blisters and ridging - minor

k. *Action Required:* ..... Limited maintenance is required on localized basis
l. *Interior Leakage Potential:* ..... Moderate
m. *Recommendation:* ..... Maintain and clean roof
-- Refer to report for further information

2. ROOF C:

a. *Roof Type:* ..... Shingle
b. *Bitumen Type:* ..... Asphalt
c. *Insulation:* ..... None above roof deck
d. *Deck:* ..... Wood
e. *Slope:* ..... Approximately 5:12
f. *Age*: ..... Unknown *(est. 15 years)*
g. *Condition:* ..... Good to fair
h. *Remaining Life Expectancy:* ..... 4 to 6 years w/maintenance
i. *Problems Noted:* ..... Nothing major noted at this time.
- Curling shingles - minor
j. *Action Required:* ..... Limited maintenance is required on localized basis
k. *Interior Leakage Potential:* ..... Minor until recommended recover or replacement
l. *Recommendation:* ..... Maintain and clean roof
-- Refer to report for further information

B. ROOF AREA DATA / SQUARE FOOTAGE:

1. Roof Area Data - *(approximate)*: ..... 4,312 *sq. ft.*

Built-up Roof Area - *(Roof A)* ..... 1,914 *sq. ft.*
Built-up Roof Area - *(Roof B)* ..... 1,914 *sq. ft.*
Shingle Roof Area - *(Roof C)* ..... 484 *sq. ft.*

C. GENERAL REVIEW:

1. The following is a general summary review of the roof systems on this facility including a general review of noted problems and issues and general comments as it applies to the specific roof based on the visual inspection.

a. There are three *(3)* roof areas on this facility and they are defined as Roofs A, B & C on the as-built drawing.

2. Roofs A & B – Built-up Roof:

a. These roofs are built-up roof systems that are considered to be currently manageable; however, minor maintenance and cleaning is required. There are a few physical visual signs/indicators of aging of the membrane and perimeter metal flashing system. Some of the noted items include:

(1) Voids in previous mastic repairs.
(2) Holes in membrane.
(3) Blisters and ridging.

b. Based on the current visual condition and reported history, it is our opinion that there is a minor potential for the development of roof system related problems, including but not limited to membrane splits, blisters, ridging, etc. and resulting interior leakage and/or deck damage.

c. Localized repair and maintenance will be necessary to ensure that the roof will meet and/or exceed life expectancy expectations.

3. Roof C – Shingle Roof:

a. This roof is a composition shingle roof system that is considered to be currently manageable; however, minor maintenance and cleaning is required. There are a few physical visual signs/indicators of aging of the shingles. Some of the noted items include:

(1) Curling shingles.

b. Based on the current visual condition and reported history, it is our opinion that there is a moderate potential for the development of roof system related problems, including but not limited to curling and damaged shingles, etc. and resulting interior leakage and/or deck damage.

c. Localized repair and maintenance will be necessary to ensure that the roof will meet and/or exceed life expectancy expectations.

4. Interior Leakage:

a. There have been a few previous interior leaks reported, but no current leakage problems were reported.

5. Past Repairs:

a. There have been past localized repairs at various locations on the built-up roofs in previous years.

b. These repairs appear to be standard type repairs

6. Drainage:

a. The roof systems are sloped by the structural deck/framing to the gutter at the west perimeter at Roof C.

7. Perimeters:

a. The majority of the perimeters on these roofs are flat seam metal coping. The perimeters are considered to be in fair condition and working adequately at this time.

b. The exception is the north perimeter at Roof A. This is a brick wall with membrane and aluminum coating and it is considered to be in fair condition and is a potential future interior leakage problem.

8. Sheet Metal:

a. The sheet metal on this roof consists of one *(1)* primary type/function:

(1) Perimeter metal is a flat seam coping metal. This metal is considered to be in fair condition and working adequately at this time.

9. HVAC Equipment:
   a. The HVAC unit on Roof A is installed on wood sleepers and is considered to be in fair condition.
10. Penetrations:
   a. Roofs A & B have typical penetrations including plumbing vents and small vents, etc. The penetrations are currently considered to be in fair condition.
   b. Roof C does not have any penetrations.

PART III – PROBLEMS/CONDITIONS NOTED:

The following is a general summary review of items noted during the visual inspection that have an effect on the short and long-term performance of the roof system and includes the recommended action required on the noted item.

A. Roof A - BUILT-UP ROOF SYSTEM:

1. High Priority Maintenance Items:
   a. Perimeter Sheet Metal System: Voids in previous mastic repairs at a few locations at the south and east parapets. This is considered a potential future interior leakage problem.
      (1) ***Action:*** Inspect sheet metal and repair as required. *(contractor item)*
   b. Base Flashing: Holes and splits in previous mastic repairs at north parapet at northeast section of the roof. This is considered a potential future interior leakage problem.
      (1) ***Action:*** Inspect base flashing and repair as required. *(contractor item)*

B. Roof B - BUILT-UP SYSTEM:

1. High Priority Maintenance Items:
   a. Perimeter Sheet Metal System: Voids in previous mastic repairs at northeast corner of the roof. This is considered a potential future interior leakage problem.
      (1) ***Action:*** Inspect sheet metal and repair as required. *(contractor item)*
   b. Vents: Voids and splits in previous mastic repairs at base of vents at west section of the roof. This is considered a potential future interior leakage problem.
      (1) ***Action:*** Inspect base flashing and repair as required. *(contractor item)*

C. Roof C - SHINGLE SYSTEM:

1. High Priority Maintenance Items:
   a. None reported or noted during this inspection.

PART IV – RECOMMENDATIONS:

A. GENERAL:

1. There are two types of roofs on the building. The Built-Up Roof System is currently considered manageable, for a few more years, with localized maintenance.
   a. As noted/discussed herein, it is our opinion that the built-up roof system has a life expectancy of one *(1)* to three *(3)* years.
2. The Shingle Roof System is currently considered manageable for a few more years with localized maintenance.
   a. As noted/discussed herein, it is our opinion that the shingle roof system has a life expectancy of four *(4)* to six *(6)* years.

B. SHORT-TERM RECOMMENDATIONS *(Maintenance)*:

1. Roofs A & B – Built-up Roof System:
   a. Immediate Stabilization Repairs:
      (1) There is a need to visually inspect the roof system and conduct localized repair of membrane, base flashing and sheet metal damage and/or areas of where moisture migration is currently occurring and/or suspected. At this time, the number/degree of localized repairs is considered to be moderate although the work should be conducted by a professional in order to do the repairs correctly.
2. Roof C – Shingle Roof System:
   a. Immediate Stabilization Repairs:
      (1) There is a need to visually inspect the roof system and conduct localized repair of shingle damage and/or areas of where moisture migration is currently occurring and/or suspected. At this time, the number/degree of localized repairs is considered to be minor although the work should be conducted by a professional in order to do the repairs correctly.
3. Current and Regular Minor Maintenance:
   a. The purpose of the localized repairs is to not only prevent and/or correct immediate interior leakage issues but also to maintain the current system by keeping moisture migration out of the assembly.
   b. Once the initial inspection and repairs are conducted, the roof should be maintained via regular inspections and localized repair of any suspect deterioration areas.
   c. A spring and fall visual inspection is recommended to note/identify any problems and/or conditions that require localized repair.
4. Increasing Risk of Deterioration:
   a. As the roof continues to age there is an increasing risk of interior leakage and leak callout repairs. Even with the localized maintenance noted/discussed within this review; as the general condition of the roofs continue to deteriorate the localized maintenance will only address immediate issues and not the overall condition of the roofs.

C. LONG-TERM RECOMMENDATIONS:

1. Roofs A & B – Built-up Roof System:

   a. Other than the items noted within this report as action items and recommendations, the built-up roofs on this facility are considered to be manageable for a short period of time. No crisis is pending, but maintenance and cleaning is required to extend the life and performance of this roof for a short period of time.

   b. As the roofs age, they will require periodic maintenance. With proper maintenance there is a high probability that the roof can be cost-effectively and successfully managed for one *(1)* to three *(3)* years.

   c. The roofs require periodic visual inspections and follow-up maintenance.

   d. There is one *(1)* option with regard to future major work because there are already two *(2)* built-up roofs on this building and Code will require the roofs to be torn off:

      (1) Removal and Replacement: This is the complete removal and replacement of the roof system. This option is required when there is more than one roof assembly *(roof-over-roof)* installed but is not necessary in all reroof projects.

         (a) This is the most expensive option when it comes to roofing a building.

   e. Electronic Moisture Testing *(RMS)*: This is a technical testing tool/procedure that we recommend and use often when it comes to reroof projects. It is required by some roof system manufacturers when a salvage and recover project is to be conducted. The data not only identifies the internal condition but also results in lower contractor bids when used in the bid/specification documents.

2. Roof B – Shingle Roof System:

   a. Other than the items noted within this report as action items and recommendations, the shingle roof on this facility is considered to be manageable. No crisis is pending, but maintenance and cleaning is required to extend the life and performance of this roof.

   b. As the roofs age, they will require periodic maintenance. With proper maintenance there is a high probability that the roofs can be cost-effectively and successfully managed for four *(4)* to six *(6)* years.

   c. The roofs require periodic visual inspections and follow-up maintenance.

   d. There are two *(2)* options with regard to the recommended major work including:

      (1) Salvage and Recover: Scope of work would salvage existing salvageable shingles and install new assembly over the salvaged roofing. This is considered a very cost-effective method of re-roofing this facility and will meet current Code requirements.

      (2) Removal and Replacement: This is the complete removal and replacement of the roof system. This option is required when there is more than one roof assembly *(roof-over-roof)* installed but is not necessary in all reroof projects.

         (a) This is the most expensive option when it comes to roofing a building.

D. MAJOR ROOF WORK *(Reroofing)* GENERAL COMMENTS:

1. Scheduling of any roof repair work, unless an emergency repair, should be during good weather only. Wintertime or cold temperature work will increase the potential for problems and should be avoided.

2. A detailed specification document is recommended for any reroof project on this facility. With any roof project, roofing specification documents should be developed for bidding purposes. The documents not only provide a source upon which competitive bids can be received or price negotiated, but it also becomes the quality control standards for the new roof assembly.

   a. As a course of the project's management, a pre-bid meeting should be scheduled to discuss any necessary modifications with the bidder*(s)* to achieve an apples-to-apples quote.

   b. After review and award of the contract and prior to the actual project start-up, a pre-job *(pre-construction)* meeting should be conducted with the successful bidder to make sure all items within the specifications and scope of the project are understood.

3. During the course of the project, a series of independent work-in-progress inspections should be conducted. These inspections not only review quality assurance but also work thru any issues that may *(often do)* arise during a reroof project on an existing facility.

   a. In addition to the periodic work-in-progress inspections, the project should have a substantial completion inspection and final inspection in order close out properly.

   b. Final payment should not be released until the roof system has been inspected and approved.

PART V – BUDGET - ESTIMATE:

A. GENERAL MAINTENANCE:

1. Immediate - Localized Repair & Maintenance ..... $ 600.00 *(approx)*
2. Continuing - Localized Repair & Maintenance..... $ 500.00 *Annually (approx)*

B. ELECTRONIC TESTING - *(Roof Moisture Testing):*

1. Total Cost : *(Roofs A & B conducted – 2013)*..... $ 1,000.00

C. MAJOR – ROOF REPLACEMENT:

1. Recover Built-up Roof: ..... $ 25,500.00 *(estimated)*
2. Replace Built-up Roof : ..... $ 30,000.00 *(estimated)*
3. Recover Shingle Roof: ..... $ 2,500.00 *(estimated)*
4. Replace Shingle Roof: ..... $ 3,000.00 *(estimated)*

D. SPECIFICATIONS & PROJECT MANAGEMENT:

1. TBD based on time/scope.

We trust that the information provided within this report is useful. It is based on our thirty-six *(36)* plus years of roof consulting. With any roof that is not in immediate crisis, there is some flexibility with the timing of repairs, maintenance and re-roofing. This is the case with this facility also.

If you have any questions concerning this inspection and/or the report, please contact our office. The opportunity to submit this information is appreciated.

Respectfully submitted,

Sincerely,

A-Tech/Northwest, Inc.

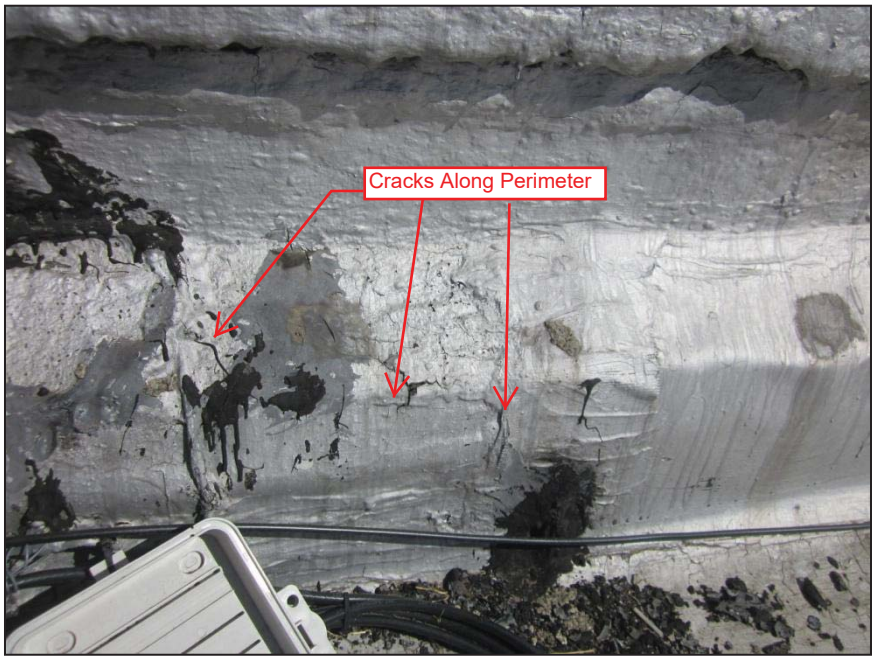
Doug Coddington *(electronic)*

Doug Coddington, *RCI*
Vice President

*A*ttachment: Photo Section
As-built Drawing

- End of Report -

Sec. 1.01 – View to west of east elevation.

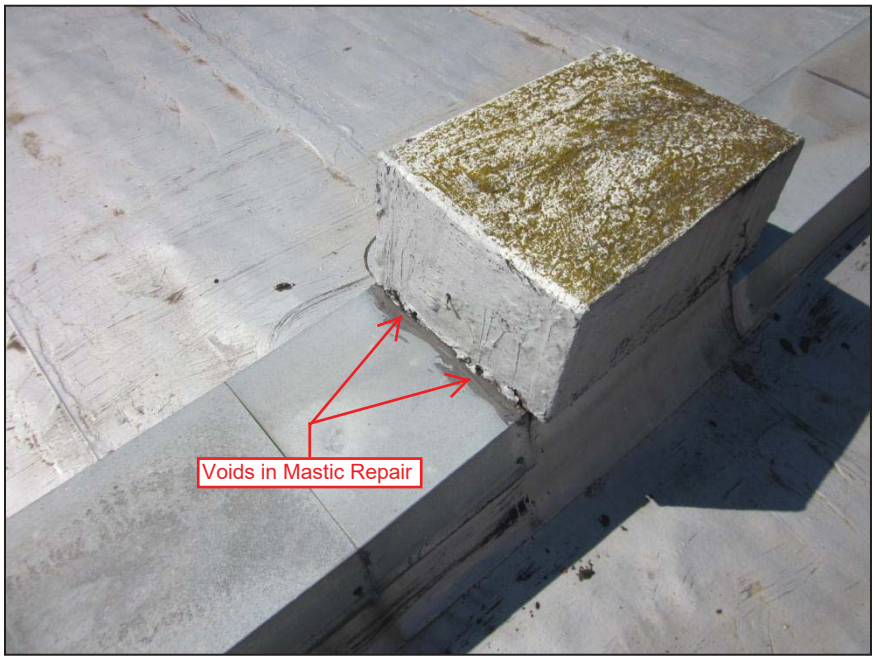


Sec. 1.02 – Roof A: View typical cracks in coating and membrane at the north perimeter.

Sec. 1.03 – Roof A: View of hole in base flashing at north perimeter at the northeast section of the roof.

Sec. 1.04 – Roof A: View base flashing that is not watertight at the northeast corner of the roof.

Sec. 1.05 – Roof A: View of typical void in previous mastic repair at metal coping joint at the east parapet.



Sec. 1.06 – Roof A: View of void in previous mastic repair at metal coping at south parapet at the southwest section of the roof.

Sec. 1.07 – Roof A: View to west across the roof field from east perimeter of the roof.

Sec. 1.08 – Roof A: View typical membrane and coating at the north perimeter.

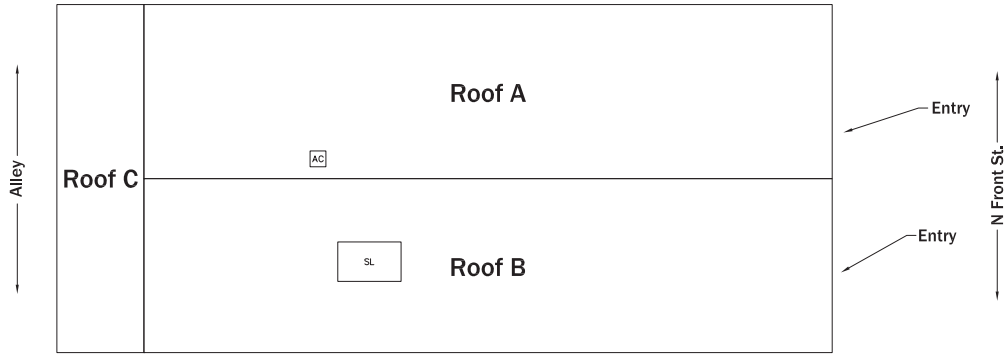
Sec. 1.09 – Roof B: View of voids in previous mastic repair to metal coping at the northeast corner of the roof.

Sec. 1.10 – Roof B: View of skylight that has splits in membrane at base of skylight.

Sec. 1.11 – Roof B: View of voids in mastic repair at base of vent at the west section of the roof.

Sec. 1.12 – Roof B: View to east across the roof field from west perimeter of the roof.

- End of Photo Section -



B.U.R.
ROOF AREA SQ.FT.
(Approximate)

Roof A:	1,914 sf
Roof B:	1,914 sf
Total:	3,828 sf

Shingle
ROOF AREA SQ.FT.
(Approximate)

Roof C:	484 sf
Total:	484 sf

Roof Total:	4,312 sf

CITY OF WOODBURN
Museum / Bungalow Theater - Woodburn, Oregon

SCALE: NTS	1 of 1	DRAWN BY: D.K.
DATE: 09/11/12		REVISED: 01/10/13

A-TECH/NORTHWEST, INC.
Portland & Prineville, Oregon 503 - 628 - 2882

As-Built Drawing

PROJECT NUMBER: 12089

REPORT OF GEOTECHNICAL ENGINEERING SERVICES

Woodburn Museum and Theater
Woodburn, Oregon

Geotech Solutions Inc.

January 31, 2018

GSI Project: woodburn-17-1-gi

Geotech Solutions Inc.

January 31, 2018 *woodburn-17-1-gi*

Jim Row
Assistant City Manager, City of Woodburn
Jim.Row@ci.woodburn.or.us

Cc: DECA; dole@deca-inc.com;

REPORT OF GEOTECHNICAL ENGINEERING SERVICES
Museum and Bungalow Theater, 455 N Front Street, Woodburn, Oregon

As authorized, this report summarizes our geotechnical engineering services for the proposed Museum and Bungalow Theater seismic upgrade in Woodburn, Oregon. From our communications with DECA we understand that plans include an ASCE 41-13 seismic upgrade, and that the structural engineer needs foundation support information for new moment frames or shear walls including possible helical piers or a deep foundation alternative. The purpose of our work will be to investigate subsurface conditions and provide geotechnical recommendations for this foundation support design by others. Our specific scope of work will include the following:

- Provide principal-level project management including management of field and subcontracted services, report writing, analyses, and invoicing.
- Review geologic maps and vicinity geotechnical information in our files as indicators of subsurface conditions.
- Complete a site reconnaissance to observe surface features relevant to geotechnical issues, such as surface materials, access, and evidence of previous grading.
- Complete a one-call and private utility locate for locatable utilities.
- Explore subsurface conditions by advancing one CPT probe in the alleyway behind the building to a depth of up to 60 feet or refusal with one PPD test and maintain a detailed log of the exploration. Grout the hole and patch the pavement when done.
- Evaluate liquefaction potential of site soils and estimate deformations and provide qualitative means to address improved support.
- Provide recommendations for support of shallow foundations, including an allowable bearing pressure and related settlement estimates, sliding coefficients, lateral earth pressures, site class for seismic design, and embedment depths.
- Provide foundation support recommendations for deep foundations for both vertical and horizontal load support.
- Provide a written report summarizing the results of our geotechnical evaluation.

SITE OBSERVATIONS AND CONDITIONS

Surface Conditions

The single story facility is located at 455 N Front Street in Woodburn, Oregon. The site is relatively flat, with sidewalks along Front Street and a paved alley to the back. The building abuts other similar structures on each side. The general site appearance from a recent aerial photo is shown on the attached ***Site Plan***.

1112 7th Street, Oregon City, OR 97045 *p 503.657.3487 f 503.722.9946*

Subsurface Conditions

General – Subsurface conditions at the site were explored on the building frontage on January 19th, 2018 by advancing one cone penetrometer probes to a depth of 60 feet. Our approximate exploration location is shown on the attached ***Site Plan.*** Specific subsurface conditions observed in the exploration are described in the attached ***CPT Logs.***

In general, subsurface conditions in our explorations generally included asphalt concrete pavement and base rock underlain by medium stiff silt and stiff layered silts with variable sand and clay content. The upper silt extended to depths of roughly 16 feet with CPT raw tip resistance generally less than 30 tsf, and raw friction ratios of 2-4%. Stiffer layered silts with variable sand and clay content are present below depths of roughly 16 feet to the depths explored, and with tip resistance of generally 30-140 tsf and friction ratios of generally 3 to 6%.

Site soil conditions are consistent with mapped soil deposits.

Groundwater – Pore pressure back calculation from the CPT's indicates ground water levels of roughly 7 feet below the ground surface. Perched ground water may exist shallower after heavy rainfall events.

CONCLUSIONS AND RECOMMENDATIONS

General

Based on the results of our explorations, laboratory testing, and engineering analyses, it is our opinion that the site can be developed following the recommendations contained herein. Key geotechnical issues include support of moment frame foundations. Specific geotechnical recommendations are provided in the following sections.

Seismic Design

General - In accordance with the International Building Code (IBC) as adapted by State of Oregon Structural Specialty Code (SOSSC) and based on our explorations and experience in the site vicinity, the subject project is Class F, but for this low rise structure can be evaluated using the parameters associated with Site Class D.

Liquefaction - Liquefaction occurs in loose, saturated, granular soils. Strong shaking, such as that experienced during earthquakes, causes the densification and the subsequent settlement of these soils. Our CPT based analyses indicates that an overall liquefaction induced settlement on the site is roughly 1/2 inch, primarily from low strain associated with sandy layers. Given this low settlement, unsaturated near surface soils, and the relatively flat local ground conditions, there is a low risk of liquefaction related structurally damaging deformations to the buildings.

Shallow Foundations

Medium stiff silt was encountered in our explorations to depths of roughly 11 feet and when undisturbed is suitable for support of shallow foundations for the anticipated loads.

Footings must be embedded at least 18 inches below the lowest adjacent, exterior grade. Footings can be designed for an allowable net bearing pressure of 2,500 psf. The preceding bearing pressure can be increased to 5,000 psf for temporary wind and seismic loads.

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Continuous footings must be no less than 18 inches wide, and pad footings must be no less than 24 inches wide. Resistance to lateral loads can be obtained by a passive equivalent fluid pressure of 350 pcf against suitable footings or grade beams, ignoring the top 12 inches of embedment, and by a footing base friction coefficient of 0.38. Base friction should not be used for grade beams. Properly founded footings are expected to settle less than a total of 1 inch, with less than ½ inch differentially.

If footing construction is to occur in wet conditions, a few inches of crushed rock must be placed at the base of footings to reduce subgrade disturbance and softening during construction.

Helical Piers

Helical piers can be used to support foundation loads in uplift or compression. Piers are generally installed in 5 to 8 foot long sections and threaded, or sleeved and triple bolted, pier shaft connections are required to reduce lateral deflection. A hydraulic motor mounted to an excavator is typically used for installation and torque during installation is monitored and used to confirm pier capacity.

Piers must be installed to minimum embedment listed below into medium stiff or better silt. The ability to meet this embedment must be verified by the contractor. Torque criteria must also be met after the required embedment is met. Torque alone is not a suitable criteria. We recommend piers with the following allowable capacities for design (using a torque factor of 9 and 8 for 2-7/8 and 3.5" shafts, respectively, and an FOS of 2 for installations we observe), with a minimum pier spacing of three helix diameters. All helical piers must be galvanized or corrosion protected. Piers embedded in grade beams can be used for 1.5 kips allowable lateral resistance for the 2-7/8", and 2 kips for the 3.5".

Helical Pier Type	Inclination (to vertical)	Design Embedment (ft - unit)	Allowable Load* (kips)
10", 12": 3/8" plates, Double with 2-7/8" pipe	Vertical	19 – stiff silt	30(C), 24 (T)
10", 12": 3/8" plates, Double with 3.5" pipe	Vertical	24 – stiff silt	40 (C), 33 (T)

* C – Compression T – Tension

Capacities for additional pier sizes or embedment can be provided upon request. We recommend that we be retained to review pier support design and be called to the site to observe installation of representative helical piers as "proof piers", as well as being provided all installation logs of production piers.

LIMITATIONS AND OBSERVATION DURING CONSTRUCTION

We have prepared this report for use by the City of Woodburn and the design and construction teams for this project only. The information herein could be used for bidding or estimating purposes but must not be construed as a warranty of subsurface conditions. We have made observations only at the aforementioned locations and only to the stated depths. These observations do not reflect soil types, strata thicknesses, water levels or seepage that may exist between observations. We must be consulted to observe all foundation bearing surfaces, subgrade stabilization, proof rolling of slab and pavement

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subgrades, installation of structural fill, subsurface drainage, and cut and fill slopes. We must be consulted to review final design and specifications in order to see that our recommendations are suitably followed. If any changes are made to the anticipated locations, loads, configurations, or construction timing, our recommendations may not be applicable, and we must be consulted. The preceding recommendations must be considered preliminary, as actual soil conditions may vary. In order for our recommendations to be final, we must be retained to observe actual subsurface conditions encountered. Our observations will allow us to interpret actual conditions and adapt our recommendations if needed.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with the generally accepted practices in this area at the time this report was prepared. No warranty, expressed or implied, is given.

We appreciate the opportunity to work with you on this project and look forward to our continued involvement. Please contact us if you have any questions.

Sincerely,

Don Rondema, MS, PE, GE
Principal

Attachments –
Site Plan, CPT Analyses and Logs

1112 7th Street, Oregon City, OR 97045 *p 503.657.3487 f 503.722.9946*

NOT TO SCALE

BASE PHOTO FROM GOOGLE EARTH 2017 AERIAL

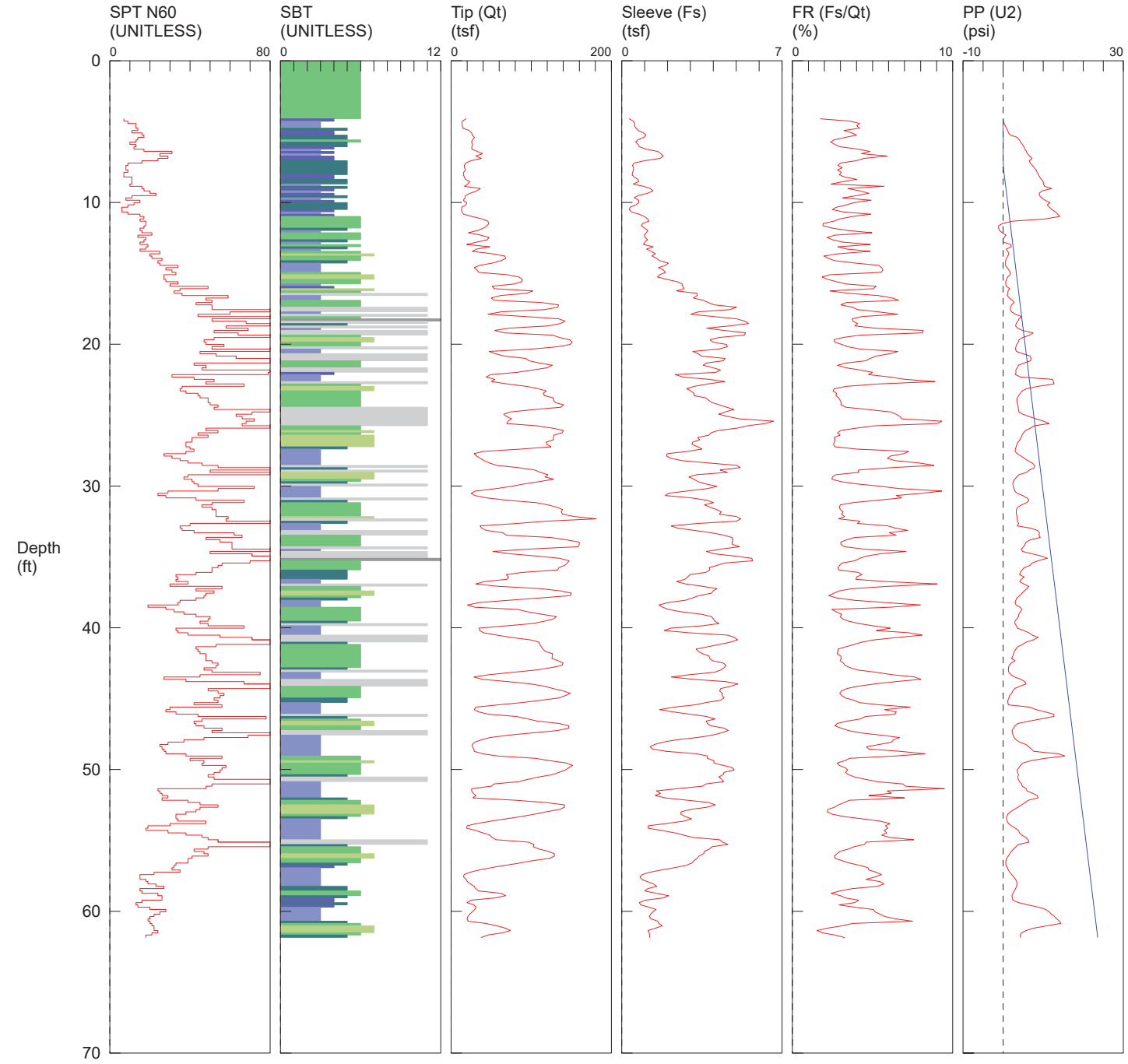
Geotech Solutions Inc.

SITE PLAN

woodburn-17-1-gi

Geotech Solutions / CPT-1 / 455 N Front st. Woodburn

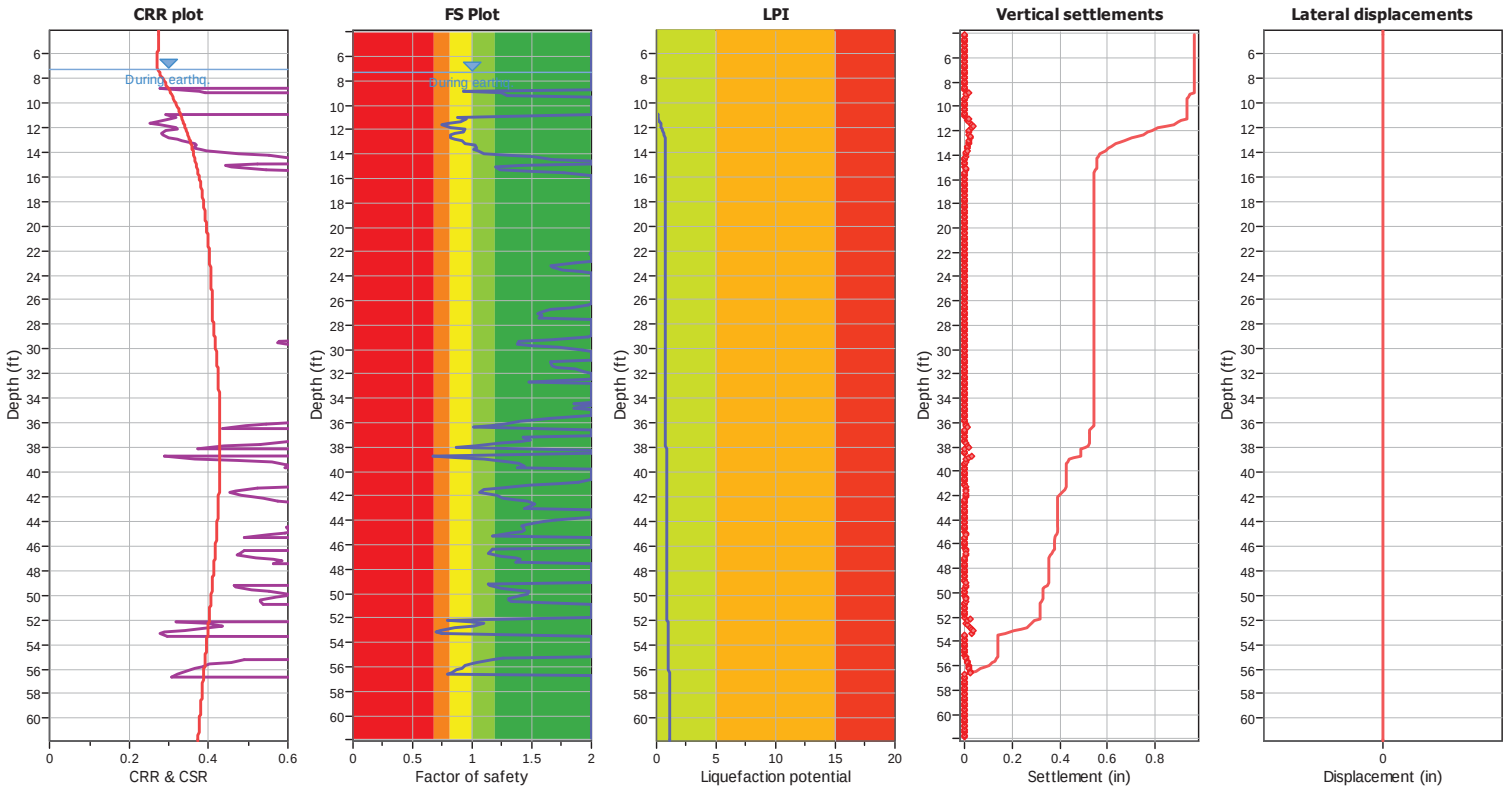
OPERATOR: OGE BB
CONE ID: DPG1323
HOLE NUMBER: CPT-1
TEST DATE: 1/19/2018 12:47:34 PM
TOTAL DEPTH: 61.844 ft



1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	7.30 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	8.70	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.29	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	7.30 ft	Fill height:	N/A	Limit depth:	60.00 ft

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

PRE-BID SIGN UP SHEET December 13, 2018

WOODBURN MUSEUM REROOF & SEISMIC UPGRADE

Those in Attendance:

	Name:	Organization:	Telephone:	Fax:	Email:
1.	Randy Feldhaus	CCR Roofing	503 803 5537		randy@bestroofusa.com
2.	Lyle Currie	Currie Constuction	503-468-2171		currie.constuction@yahoo.com
3.	Phil Garibaldo	Professional quality	roofing ←	503 267 4588	phil@ProQualityroofing.com
4.	Brian Kearney	ABC Roofing	503-796-0616		tbolt@abcroofingco.com
5.	DGS Dennis Gee Const	DGS	503 981 0933	503 981 1337	[illegible]@aol.com
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					

Woodburn Museum & Theater Reroof & Seismic Upgrade

List of Bidder Questions and Responses

Bidder Questions asked during Pre-Bid Meeting 12/13/18:

1. **At what height above floor finish are the new ceilings to be installed?**

   Response: All new ceiling heights are to match existing prior to demolition.

Written Bidder Questions:

1. **Bidder Question 12/21/18**
   For the alternate bid, the flooring runs front-to-back (NW to SE), so uninstalling and salvaging without cutting it would be pretty labor-intensive. Do you intend for us to cut it? Or do the flooring planks have to come out whole? This is the area of floor that needs to be temporarily removed to install the footing for the moment frames.

   Response: The intent is for the existing flooring to be cut in order to be removed. The area removed should be limited to where the grade beams are being installed.

2. **Bidder Question 12/21/18**
   We can see for some of the structural details that we would need to attach hardware to the outside of the walls. This would affect the photo shop and Boost Mobile store on either side of the site. Will the city be coordinating access into those buildings, or is that something we should figure on in our bid?

   Response: The City of Woodburn will assist in coordinating access to the adjacent buildings. Bidders are to consider additional coordination efforts will be required to complete the work.

3. **Bidder Question 12/21/18**
   Will it be permissible to leave the furnishings in the museum and theater if we are able to work around them?

   Response: Yes, it will be permissible to leave furnishings in the museum and theater if work can be completed without damaging the furnishings. Any items to be removed by bidders will needed to be coordinated with the owner. Any items left in the area of work during construction will need to be protected from damage.