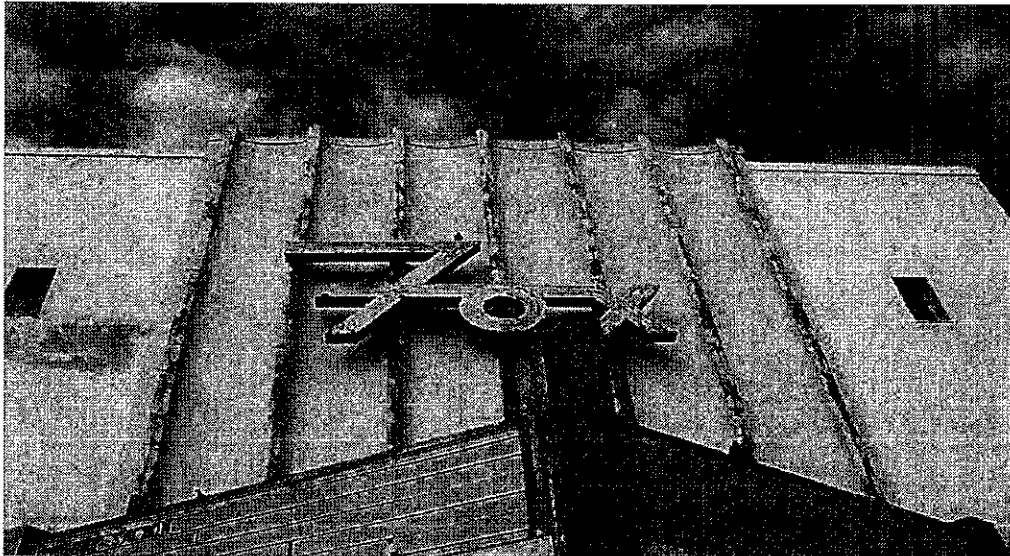


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**Asbestos Abatement/Demolition
Work Plan
For
Structurally Unsound Buildings**



Fox Theater
112 2nd Street
Laramie, Wyoming

Prepared By



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Prepared For

City of Laramie

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1. Introduction

This Work Plan has been developed by Spectrum Service Inc. (Spectrum) of behalf of the City of Laramie, Wyoming for the pending demolition of the structurally unsound Fox Theater building located at 112 2nd Street, Laramie, Wyoming.

2. Purpose

The purpose of this Work Plan is to comply with the requirements of United States Environmental Protection Agency (USEPA), the Occupational Safety and Health Administration (OSHA) and the Wyoming Department of Environmental Quality (WDEQ) Chapter 3 General Emission Standards for Structurally Unsound Buildings. In addition this Work plan outlines and outline work practice requirements that are to be protective of public health and the environment that will not endanger site workers performing abatement/demolition. The selected Contractor will submit the WDEQ Notification of Demolition and Renovation form prior to commencement of and on site activities, using this Work Plan as a guidance document.

The primary goal of the project is to demolish the unsound structures without creating asbestos fiber emissions and to perform the work without creating visible emissions per WDEQ Air Quality Division Chapter 3. To meet the primary goal of the project, specific tasks/job duties and associated work practices have been designed in this Work Plan.

It will be the responsibility of the site Contractor(s) to ensure that persons working on-site are thoroughly trained in their task before entering the regulated areas to perform their work. Additionally, each person entering the regulated area will have met the training and accreditation requirements of the EPA Model Accreditation Program, applicable OSHA regulations and the Site Health and Safety Plan.

3. Background

The site is located at 112 2nd Street in Laramie, Wyoming and includes a 3 story structurally unsound building. The building was constructed in 1912 as a performance theater with renovations in 1929 to show movie features. In 1938 the theater was renovated again with the exterior facade modified to its current construction. The theater has had no other known renovations done and was closed in the 1970s and has remained closed to this date.

The building is comprised of a basement, ground floor and a second floor balcony. The square footage is approximately 5,000 square feet and seats 800 occupants. The building has remained vacant for the past 30 years with no continued maintenance or repairs since its last occupation.

The current condition of the roof is significantly damaged. Portions of the roof system and structural supports have failed and collapsed onto the main floor and balcony. The remaining roof is in unstable condition and could collapse soon. The theater exterior walls have major structural cracks and are not reinforced which could lead to a collapse of the walls if the remaining roof system fails. The interior of the building has been exposed to the elements for a long period of time leading to significant damage to the walls, balcony and floor. A large amount of pigeons have nested inside the structure for an extended period of time causing large amounts of pigeon waste to accumulate. The accumulation of the pigeon waste and asbestos mixed with the construction debris has caused the building to be unsafe to enter and poses a significant health risk. The City of Laramie has plans to acquire the property and demolish the existing structure.

4. Asbestos Containing Materials

A comprehensive asbestos inspection has not been completed for the subject site due to the unsound structure of the building. However, known asbestos containing materials within the building are:

- Plaster on walls and debris;
- Aircell pipe insulation and
- Hard Pack pipe fittings.

All other suspect building materials are assumed to contain asbestos for the purpose of this demolition project. All materials and debris within the building is assumed to contain asbestos or is asbestos contaminated and no personnel shall enter the building or remove and material from the building without proper PPE and decontamination procedures.

A structural assessment has been conducted for the buildings to evaluate structural integrity. The structural assessment was performed by a State of Colorado registered Professional Engineer (PE) and it was determined the building is unsound due to deterioration of the roof, structural supports and structural cracks in the non-reinforced exterior cement walls.

During this project, there will be several tasks where personnel responsibilities and work practices will focus on elimination of asbestos fibers and visible emissions during performance of the work. These tasks are discussed in the following sections.

5. Training Requirements

Supervisor: The Contractor shall staff at least one EPA certified asbestos abatement Supervisor on site at all times during demolition activities.

Workers: All personnel conducting any abatement or demolition activities or personnel entering the work area during regulated activities shall be EPA certified asbestos abatement workers.

Equipment Operators: All personnel operating any equipment during demolition activities shall be EPA certified asbestos abatement workers.

Truckers: Will have a minimum of 2-hour asbestos awareness training.

Air Monitoring: Personnel conducting air monitoring shall be EPA certified air monitoring specialist (AMS) and EPA certified asbestos inspectors.

6. Restricted Area

The site will be controlled through the use of barrier systems that demarcate both restricted and regulated areas.

Restricted Area: Chain-link fencing will be erected around the entire site to restrict access to unauthorized personnel.

Regulated Area: Each abatement area shall be regulated using wind fencing with all required signage and postings.

Site Entrance: All personnel entering or exiting the site shall be restricted to one access point and monitored by the Contractor. If more than one entry or exit point is required Contractor personnel shall continuously monitor these points. No unauthorized or non certified personnel shall enter either the restricted or the regulated area during abatement activities.

7. Personal Protective Equipment

PPE: All personnel entering the regulated work area during active asbestos abatement shall wear PPE including respirators as required by the OSHA regulations 29 Code of Federal Regulations(CFR) 1926.1101 (Asbestos in Construction) and 29 CFR 1910.134 (Respiratory Protection), disposable protective suits, steel toed boots, safety glasses, hard hats and work gloves.

Decontamination: A mobile worker decontamination unit shall be the single point of ingress/egress from the regulated area. All personnel exiting the work area shall remove the protective equipment and proceed through the decontamination unit following decontamination procedures. All clothing that enters the regulated area will remain in the regulated area and be handled/disposed as friable ACWM. Hot water shall be supplied to the decontamination unit at all times.

8. Removal Procedures

Demolition: The Contractor will demolish structures and appurtenances in an orderly and careful manner. The building will be demolished in a controlled fashion inward onto itself in order to minimize debris piles. The Contractor will immediately remove demolished

material from the site. Wherever possible demolition debris will be contained to concrete slabs prior to loading operations. Demolition equipment shall access the building from no more than two sides so that disturbance of exposed material within the building is minimized. Debris that may fall outside of the building footprint shall be wetted, hand picked and placed in bags labeled with asbestos warning labels as required by WDEQ Standards and Regulations Chapter 3.

Equipment: Mechanized equipment and hand tools will be used to demolish the building. The selected Contractor will determine the specific number and types of machinery and tools. Once equipment is brought onto the site and used for demolition activities it may not leave the site until it is decontaminated per the requirements of this work plan. Any water created by the decontamination of the equipment shall be collected, filtered to five microns and disposed of in a sanitary drain.

Wetting: All material being demolished shall be thoroughly wetted with amended water prior to any demolition activities. Pre-wetting of the inside of the building will be performed prior to commencing building demolition activities. A minimum of two water sources shall be used during demolition procedures. Fire hoses shall be used to supply water from hydrants located at the site perimeter and misting nozzles will be used to effectively suppress dust. One of the water sources shall be directed at the point of demolition and the other hose shall be directed at the point of truck loading. At no time during the demolition shall there be any visible dust emissions from the demolition activities. If two water sources are not sufficient to suppress visible dust during the demolition activities the Contractor shall acquire additional water sources to suppress dust emissions adequately. Contractor will use surfactant amendment during all wetting operations. Any pools or standing water shall be collected and filtered to five microns for disposal in a sanitary drain.

Water Control: The contractor shall place constructed engineering controls around all demolition areas to ensure no water run off occurs during demolition activities. Any drain inlets within the demolition site should be sealed off and protected from on site water entering the drain. A visual inspection of the water control system shall be completed by the Contractor Supervisor during demolition activities on a regular basis.

9. Debris Packaging and Transportation

Truck lining: All trucks entering the site shall be lined with a 6-mil sliding layer adhered to the truck. All debris will be placed within a two layer burrito style liner. All liners shall utilize at least two layers of 6 mil poly for construction of the burrito style liner. All trucks shall be equipped with leak tight containers. Upon entering the site the trucks will stop at a staging point where they will be lined with the burrito liner. After the lining has been installed the truck will then be loaded with the adequately-wet ACM demolition debris and proceed to the staging area to have the liner sealed. The liner shall be sealed utilizing duct tape and spray glue in a manner as to assure the leak-tight integrity of the bag during transport and unloading of the bag at the approved landfill. The Contractor,

project manager and truck drivers shall insure that debris slides out intact at the landfill. The project manager and Contractor will inform truck drivers on dumping techniques that will keep the containers in a leak tight condition during dumping. Drivers shall receive instruction on the best method for dumping waste bags without rupturing.

Loading: All trucks shall be loaded utilizing wet methods and loading will be performed over drop cloths to control ACM debris. If any debris is dislodged during the loading process it will be cleaned up immediately and disposed of as ACM. Truck drivers shall stay in the vehicle with windows rolled up at all times while on site. Wherever possible, debris shall be directly loaded into the truck to avoid multiple movements of the demolition debris.

Truck and Equipment Decontamination: All vehicles entering will have a clear path to enter the regulated area. Truck drivers shall have 2-hour asbestos awareness training. All vehicles entering or exiting the work area shall be inspected for debris and decontaminated prior to exiting the site. The project manager will determine the proper cleaning procedure on a condition-specific basis. Minor dust accumulations will be rinsed using low-pressure water sources. If larger clumps of debris are present, high pressure water will not be applied because this may lead to over wetting and runoff. Larger debris will be cleaned using hand methods with brushes and wet rags. Direct loading of trucks is always required.

In the event that a portion of the truck becomes contaminated with ACM debris during loading of the waste, the truck will be decontaminated prior to leaving the site. Each vehicle will be washed from the highest point to the point where the tires contact the ground where the contamination has occurred. Washing in this order will prevent the possible spread of contaminated material to an area of the truck that has already been decontaminated. The decontamination area shall be constructed in a manner that allows for collection of rinsate, which will be filtered to five microns prior to discharge to a sanitary sewer. At the conclusion of the project the material used in the decontamination area will be disposed of as friable asbestos containing waste materials (ACWM) or cleaned for reuse.

10. Waste Disposal

All asbestos waste from the project site will be transported to an approved Colorado Department of Public Health and Environment (CDPHE) approved landfill for asbestos waste. The Contractor shall notify the landfill of the nature of the waste generated from the structurally unsound building. The Contractor will seal all asbestos-containing waste material in leak-tight liners as required by Wyoming Department of Transportation (WDOT), Colorado Department of Transportation (CDOT), WDEQ, CDPHE and the disposal facility. Appropriate containers and procedures shall be used to prevent all breakage, rupture or leakage during loading, shipping, transportation and dumping of asbestos containing waste material.

All asbestos waste must be adequately wet as defined in the EPA/NESHAP Guidance dated December 1990. Per the EPA Guidance, "adequately wet" means to "sufficiently mix or penetrate with liquid to prevent the release of particles".

As the work progresses asbestos containing waste shall be removed directly from the regulated area and directly loaded into trucks. Waste loading will be inspected to ensure that bag rupturing does not occur. Cardboard will be used as necessary to ensure that loaded waste will not rupture during sealing, transport or waste disposal.

Upon completion of the demolition work, the Contractor will be required to submit a written statement attesting that all items containing asbestos have been disposed of as friable ACWM in accordance with EPA 40, CFR, Part 61, Subpart M in the approved sanitary landfill(s). Documentation shall include copies of completed Waste Shipment Records signed by generator, transporter(s) and disposal site operator.

11. Utilities

Utilities at the site may include above and below ground electrical, water supply mains, gas supply lines, telephone, electric, fire suppression mains, and sanitary/storm sewers. The Contractor will be responsible for utility location and shall verify that all utilities will be or have been disconnected to the site prior to demolition activities. Use and shut-down of all utilities shall be coordinated with the utility provider and disconnects shall be done by licensed contractors. During disconnects, utilities shall be protected to prevent damage to off-site utilities. No debris shall be allowed to enter sanitary sewers.

12. Stop Work Procedures

Wind: All demolition or abatement activities will stop when sustained wind speeds exceed 15 miles per hour (mph) for a period of 15 minutes or longer as measured by an on-site hand held wind meter. If wind speeds fall below 15 mph after 15 minutes the demolition or abatement activities will be allowed to continue and wind speed will continued to be monitored and recorded. If visible wind-borne debris or dust originating outside the regulated area is observed at wind speeds below these levels all demolition activities shall cease until conditions improve.

Dust: In the event that visible emissions or dust are observed originating from the regulated area all work will stop immediately and work procedures will be reviewed by the Contractor Supervisor, Project Manger and the AMS/building inspector. Work will not resume until the source of the emission is corrected, the Work Plan has been reviewed, and additional controls are implemented to prevent further emissions.

Storm Water: The contractor shall be prohibited from performing demolition when the weather forecast or actual conditions indicate the likelihood of a significant precipitation event or runoff producing storms.

Air Samples: If air samples results identify any detectable asbestos all work activities shall stop immediately. A review of work practices will occur by the Contractor Supervisor, Project Manger and the AMS. The WDEQ Air Quality Division shall be notified immediately if any stop work procedures occur and work will not resume until the appropriate modifications are made to site work practices and these changes shall be documented and implemented into this Work Plan.

13. Air Monitoring

Ambient Air Sample Locations and Analysis: At least 5 air samples will be set and collected as close to the demolition activity as possible around the perimeter of each active regulated area, each day. Four samples will be placed surrounding the site, one at each compass point. The one or more remaining sample(s) will be placed in an area downwind of the demolition activity as close to the work area as possible without interference to the work activities. Ambient air samples will be collected according to protocols outlined in the National Institute of Occupational Safety and Health (NIOSH) Methods 7402 and 40 CFR 763, and shall be submitted to Reservoirs Environmental, Inc. (Reservoirs) for presence/absence Transmission Electron Microscopy (TEM) analysis. Samples must be received within 24 hours of laboratory acceptance.

Personal Air Samples: Personal monitoring shall be performed on all personnel performing asbestos related activities, including but not limited to asbestos abatement, demolition and inspections. Personnel monitoring shall be performed on each specific task or operation associated with asbestos containing material, until or unless, an Exposure Assessment in accordance with OSHA 29 CFR 1926.1101, is accepted by the Project Manager. OSHA has established an Excursion Limit of 1.0 F/cc and a TWA PEL of 0.10 F/cc. Personnel samples will be submitted to American Industrial Hygiene Association (AIHA) Proficiency Accredited Testing (PAT) accredited laboratory for Phase Contrast Microscopy (PCM) analysis. Samples must be received within 24 hours of laboratory acceptance.

Background Air Samples: A total of 6 ambient background air samples will be collected and analyzed by TEM method on two consecutive days (3 samples per day) to document asbestos fiber concentrations in the air prior to any site work activity.

Flow rates shall be recorded at the beginning and at the end of the sampling period using a Primary Calibration Standard (DryCal) or shall be calibrated using a rotameter calibrated against a Primary Calibration Standard. Flow rates shall not vary greater than +/- 10% between pre-calibration and post-calibration in accordance with NIOSH sampling protocols.

The WDEQ Air Quality Division will be notified if any detectable asbestos is identified on any air samples.

14. Project Management, Visual Inspections and Project Clearance

Project Management/AMS: At all times, the project shall be overseen by a project manager and or AMS. The project manager and AMS shall have stop-work authority.

Visual Inspection: The AMS/building inspector will conduct a visual inspection of the ground surface or concrete slabs at the conclusion of the demolition within the regulated areas. If exposed soils are present in the regulated area at least two inches of soil will be removed. The inspection will verify that that all visible demolition-related dust and debris has been removed. If any dust or debris is identified on exposed soils during the visual inspections the Contractor shall remove the debris until none is observed, plus an additional two inches of soils. All such debris and soil shall be handled and disposed as friable ACWM.

If demolition debris is observed on concrete slabs the area will be re-cleaned using wet methods and HEPA vacuums. If dust or debris is identified again the process will be repeated until it is visibly clean. Once the visual inspection passes, the foundation slabs and footers will be removed as a solid waste under observation by the AMS.

Clearance Bulk Sampling

At the conclusion of the demolition, where soil is exposed in the footprint of the structure, bulk soil samples will be collected and submitted to a NVLAP accredited laboratory for presence/absence Polarized Light Microscopy (PLM) analysis using the method specified in 29 CFR 1910.1001. Equally sized grids will be placed within the exposed soil area of the work area. Ten aliquots will be collected from each grid to comprise one composite soil sample per grid. The number of grids sampled will be determined by the amount of soil, if any that is exposed during the conclusion of the demolition project. Each grid will need to have a no asbestos detected result in order for that grid to be determined asbestos free. If asbestos is detected within that grid upon laboratory analysis of the soil sample, that soil will be considered asbestos contaminated and an additional 2 inches of soil will be removed. Upon the removal of the additional soil the clearance inspection and sample collection will start over for that grid.

At the conclusion of the demolition, where concrete is exposed and shall remain, bulk samples will be collected any surface material or dust samples collected from the surface of the exposed concrete slab. At least 7 bulk samples shall be collected in a random distributed manner and submitted to a NVLAP accredited laboratory for presence/absence PLM analysis us the method specified in 29 CFR 1910.1001. Each sample must have a no asbestos detect result prior to clearance of the project for public occupancy or reconstruction.

SPECTRUM SERVICES, INC.

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