

**Analysis of Brownfields Cleanup Alternatives
Preliminary Evaluation
Central Montana Medical Center, 408 Wendell Avenue, Lewistown,
Fergus County, Montana 59457
Prepared for Snowy Mountain Development Corporation**

I. Introduction & Background

a. Site Location

The Site is located at 408 Wendell Avenue, Lewistown, Fergus County, Montana, USA (herein referred to as “the Site”). The Site is developed land consisting of a one-story building with a combination of a full basement and crawlspace below grade that is approximately 788,436 square feet (sq. ft.), paved parking, and landscaped areas. Wendell Avenue is located to the east, McKinley Street is located to the south, and Mt. Pleasant Street is located to the north. The Site is bounded by mostly residential properties to the north and east, and commercial/multi-residential properties to the south. The western property is vacant, undeveloped, greenspace.



a.1. Forecasted Climate Conditions

According to the US Global Change Research Program (USGCRP) through NOAA National Centers for Environmental Information, Montana’s average annual temperature has increased approximately 2 °F since the early 20th century. This increase is most evident in winter warming, which has been characterized by fewer very cold days since 1990. Under a higher emissions pathway, historically unprecedented warming is projected by the end of the 21st century.

Montana’s mountains and river systems provide critical water resources not only for Montana but also for other downstream states. Projected increases in spring precipitation may have both beneficial (increased water supplies) and negative (increased flooding) impacts.

Higher temperatures will increase the rate of soil moisture loss during dry spells, leading to an increase in the intensity of naturally occurring future droughts and an increased demand for irrigation water. The frequency of wildfire occurrence and severity is projected to increase in Montana.

b. Previous Site Use(s) and any previous cleanup/ remediation

The Site was built in 1977 with several additions throughout the years, including but not limited to the hospice house in 2014. Since construction, the Site has operated as a hospital and supports physical rehabilitation, home/health/hospice, in/outpatient surgical services, emergency and intensive care, and high technology radiology services.

CMMC has requested assistance from Snowy Mountain Development Corporation (SMDC) with the abatement of asbestos containing materials (ACM) within areas of the hospital that will be renovated as part of the project to construct the CMMC Cancer Center.

c. Building Inspection Findings

A pre-renovation asbestos inspection was conducted On November 30 and December 1, 2021 by Tetra Tech, Inc (Tetra Tech 2021).

The inspection confirmed the presence of ACM that is a contaminant of concern (COC) at the Site. Five homogeneous areas (HA) were reported as “positive” (>1% asbestos). The USEPA defines ACM as any material containing more than 1% asbestos. The USEPA distinguishes between friable and non-friable forms of ACM. Friable materials, when dry, can be crumbled or reduced to powder by hand pressure, whereas non-friable materials cannot. Under the Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), ACM is classified as either Regulated Asbestos-Containing Materials (RACM) or non-friable. The EPA defines RACM as (a) friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities. The Inspection Report classified the ACM as Category I and II, Non-Friable, as follows:

- **HA CC-F1.3 - Brown and black mastic associated with non-ACM cream pebble pattern vinyl sheet flooring (VSF):** The mastics are composed of 2% chrysotile. The mastics are estimated to total approximately 247 - sq. ft. on the main level of the hospital.
- **HA CC-F2.1 - 12-inch (in.) X 12-in. cream with brown and tan spots vinyl floor tile (VFT) and associated black mastic:** The VFT and mastic are composed of 2% chrysotile. The tile and mastics are estimated to total approximately 26,612 sq. ft.
- **HA CC-F2.2 - 12- in. X 12-in. cream with brown and tan spots VFT and associated tan and black mastics beneath non-ACM vinyl sheet flooring:** The VFT and mastics are composed of 2% chrysotile. The VFT and mastics are estimated to total approximately 564 sq. ft.
- **HA CC-M1.3 - Silver painted black tar built up parapet roof sealant:** The sealant is composed of 3% chrysotile. The sealant is estimated to total approximately 11,188 sq. ft.
- **HA CC-M4.1 - Cream painted gray 4-foot (ft.) X 4-ft. transite panels:** The panels are composed of 20% chrysotile. The panels are estimated to total approximately 348 sq. ft.

d. Project Goal

The project will support the planned renovation and redevelopment of a portion of the

hospital Site. The project goals are to provide abatement for ACM that will be disturbed by construction activities to build the new CMMC Cancer Center.

II. Applicable Regulations and Cleanup Standards

a. Cleanup Oversight Responsibility and Standards:

Based on the inspection results and in accordance with state and federal regulations, the ACMs identified as >1% are required to be abated prior to disturbance. The ACMs are required to be removed by a licensed asbestos abatement contractor. Montana regulations include the Administrative Rules of Montana (ARM) 17.74 Subchapter 3 and Montana Code Annotated (MCA), Title 75, Part 5. Federal regulations include the National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61, subparts A&M and OSHA regulations regarding worker exposure to asbestos fibers (OSHA 1910 Subpart Z). Following completion of abatement activities, a visual inspection and asbestos air clearance sampling will be required to be performed per Montana ARM 17.74.357. The selected abatement contractor will follow all applicable state and federal cleanup standards for the proper abatement and removal of ACM.

b. Laws & Regulations Applicable to the Cleanup

Laws and regulations that are applicable to this cleanup include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Federal Davis-Bacon Act, state environmental law, Montana Prevailing Wages, and Town by-laws. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed. The asbestos will be disposed of at an approved landfill that will accept the waste.

III. Evaluation of Cleanup Alternatives

a. Cleanup Alternatives Considered

To address contamination at the Site there are three different alternatives considered:

Alternative #1: No Action

Alternative #2: Abatement and Disposal of Selected ACM

Alternative #3: Abatement and Disposal of All ACM

b. Exposure Pathways

The COCs identified at the Site include Category I and Category II, Non-Friable ACM. These materials do not have an exposure pathway, unless they are made friable by sanding, grinding, cutting, or abrading. Alternative #1 would not have an exposure pathway. Alternative #2 and #3 will have an exposure pathway for materials that are made friable during the abatement process. Appropriate containment areas will be required for the abatement to ensure that asbestos made friable during the abatement is removed from the hospital. The ACM will be kept sufficiently wetted during abatement. Additionally, the abatement contractor will coordinate with the hospital facilities manager to close air vents and returns for the HVAC system within the areas where abatement work is occurring.

c. Evaluation of Cleanup Alternatives

To satisfy USEPA requirements, the effectiveness, implementability, and cost of each alternative must be considered prior to selecting a recommended cleanup alternative.

Alternative #1: No Action

In this alternative, no cleanup, abatement, or renovation would occur, and the existing structure would remain as-is. While the No Action alternative would have minimal direct costs, it would also leave the hazards in place and renovation could not occur.

- Feasibility: This alternative is deemed infeasible due to the CMMCs intention to renovate the structure and construct the CMMC Cancer Center. ACM will have to be disturbed to facilitate the construction of the Cancer Center.
- Effectiveness: This alternative effectively controls potential exposure of commercial workers to the ACM in the short term but does not address long term exposure or provide a desirable renovation to the CMMC facility.
- Cost: Direct costs are minimal. Additional costs may be incurred to perform periodic monitoring of the building conditions and to maintain management plans.

Alternative #2: Abatement and Disposal of Selected ACM

In this alternative, a selected portion of the ACM identified in the building would be abated and disposed, based upon the areas anticipated to be disturbed during the renovation. Assumptions made when creating the cost estimate for this alternative includes:

1. Selected ACM located in the basement (HA CC-F2.1 Vinyl Floor Tile (VFT) and associated black mastic) that is located within the main hallway will be removed from the building and disposed off-site (approximately 2,577 sq. ft., labeled as Base and Alternative Bid on Figure 1). The remaining ACM located in basement rooms will not be disturbed by the renovation and will remain in place;
2. The transite panels (CC-M4.1, approximately 348 sq. ft.) will be removed and disposed off-site. The ACM flooring (CC-F1.3, CC-F2.1, and CC-F2.1) identified on the main level will not be disturbed by the planned construction and will remain in place. Figure 2 indicates the ACM to be removed.
3. A selected portion of the build up roof system and sealant on the roof (approximately 20 sq. ft., labeled Base Bid on Figure 3) will be removed from the building and disposed off-site to facilitate the construction of a new overflow roof drain and new air exhaust (not part of the abatement scope of work). The rest of the ACM roofing will not be disturbed and will remain in place.

The feasibility, effectiveness and cost for Alternative #2 are discussed below:

- Feasibility: This alternative is technologically feasible and meets the state and federal requirements.
- Effectiveness: This alternative is effective in removing the selected portion of the ACM identified at the Site in order to facilitate renovation efforts; however, ACM will remain in place that will have to be mitigated and maintained with a management plan by the hospital. Any future renovations that would disturb remaining ACM will require additional abatement at that point in time.
- Cost: The abatement capital cost for this alternative is estimated to be approximately **\$22,876**. This estimate includes a 20% contingency for costs

associated with additional ACM that may not have previously been identified. The contingency may not cover all potential costs of unforeseen conditions, including the management of additional unidentified hazardous building materials (i.e. PCB ballast, mercury switches, etc.).

Alternative #3: Abatement and Disposal of All ACM

In this alternative, all of the ACM identified in the building would be abated and disposed of off-site.

- **Feasibility:** This alternative is technologically feasible and meets the state and federal requirements. However, this alternative would require the hospital staff to remove furnishings from all of the rooms with ACM and cause logistical challenges for the hospital operations by displacing staff from their normal offices and work spaces.
- **Effectiveness:** This alternative is effective in mitigating all of the identified ACM.
- **Cost:** The abatement capital cost for this alternative is estimated to be approximately **\$243,148**. This estimate includes a 20% contingency for costs associated with additional ACM that may not have previously been identified. The contingency may not cover all potential costs of unforeseen conditions, including the management of additional unidentified hazardous building materials (i.e. PCB ballast, mercury switches, etc.). This cost estimate does not include costs incurred by the hospital to remove furnishings from all the rooms that would have abatement activities going on.

d. Consideration of Climate Change Impacts

Regional trends show increased extreme weather such as increased frequency of heavy precipitation events and increased frequency of flooding effect the site. The site will maintain similar amounts of impervious surfacing with all three alternatives and will not increase the volume or peak flowrate of runoff from the site during a precipitation event. The site is also located outside of a mapped floodway, greatly reducing the chances of flooding affecting the hospital

All proposed alternatives, except Alternative #1 for No Action, improve the ability for the hospital facility to handle localized precipitation. The select abatement of ACM on the roof of the existing hospital will facilitate the addition of a new overflow roof drain (constructed separately from the abatement scope of work) and will reduce the potential for water damage to the hospital.

e. Recommended Cleanup Alternative

The recommended cleanup alternative is Alternative #2: Abatement and Disposal of Selected ACM. The location of ACM proposed for abatement is shown on the attached Figures 1, 2 and 3.

Alternative #1, No Action does not remove the ACM from the Site to facilitate renovations. Alternative #2 removes a selected portion of the ACM from the Site and will facilitate planned renovations; however remaining ACM will need to be documented and maintained utilizing a management plan by the hospital. Alternative #3 effectively mitigates all of the identified ACM and facilitates more than the planned renovation; however, the costs for this alternative are significantly higher and would require displacing staff from their offices and work spaces. For these reasons, Alternative #2 is

the recommended alternative.

Green and Sustainable Remediation Measures for Selected Alternative

To make the selected alternative more sustainable, several techniques are planned. The most recent Best Management Practices (BMPs) issued under ASTM Standard E-2893: Standard Guide for Greener Cleanups will be used as a reference in this effort. SMDC will require the abatement contractor to follow an idle-reduction policy and use heavy equipment with advanced emissions controls operating on ultra-low sulfur diesel. The number of mobilizations to the Site will also be minimized.

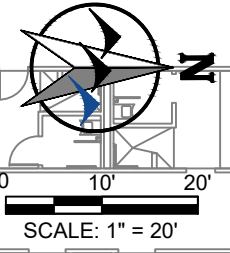
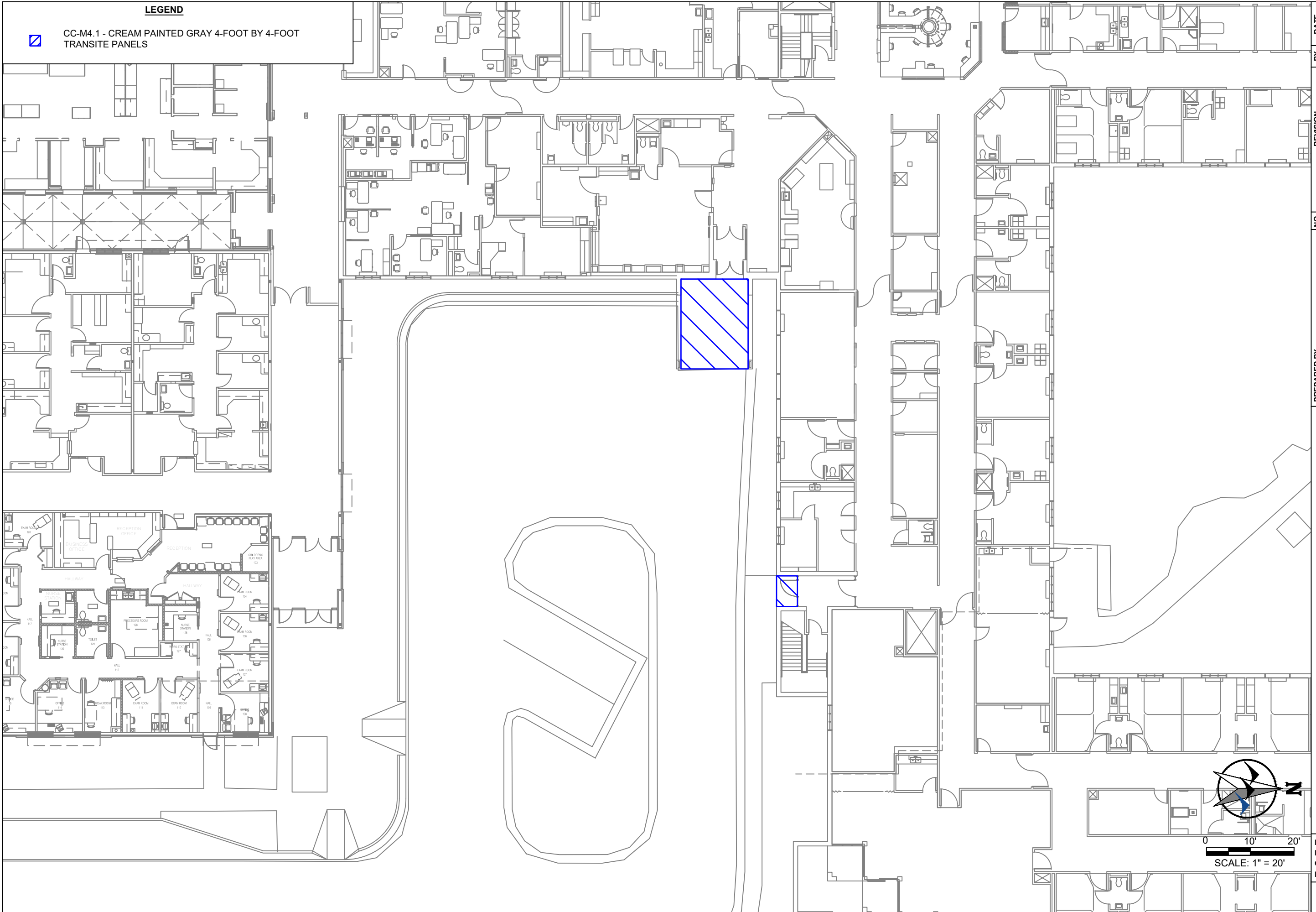
FIGURES

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LEGEND



CC-M4.1 - CREAM PAINTED GRAY 4-FOOT BY 4-FOOT TRANSITE PANELS





NO.	REVISION	BY	DATE

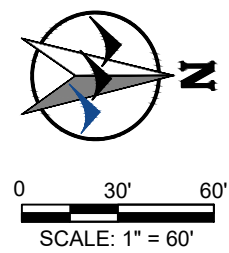
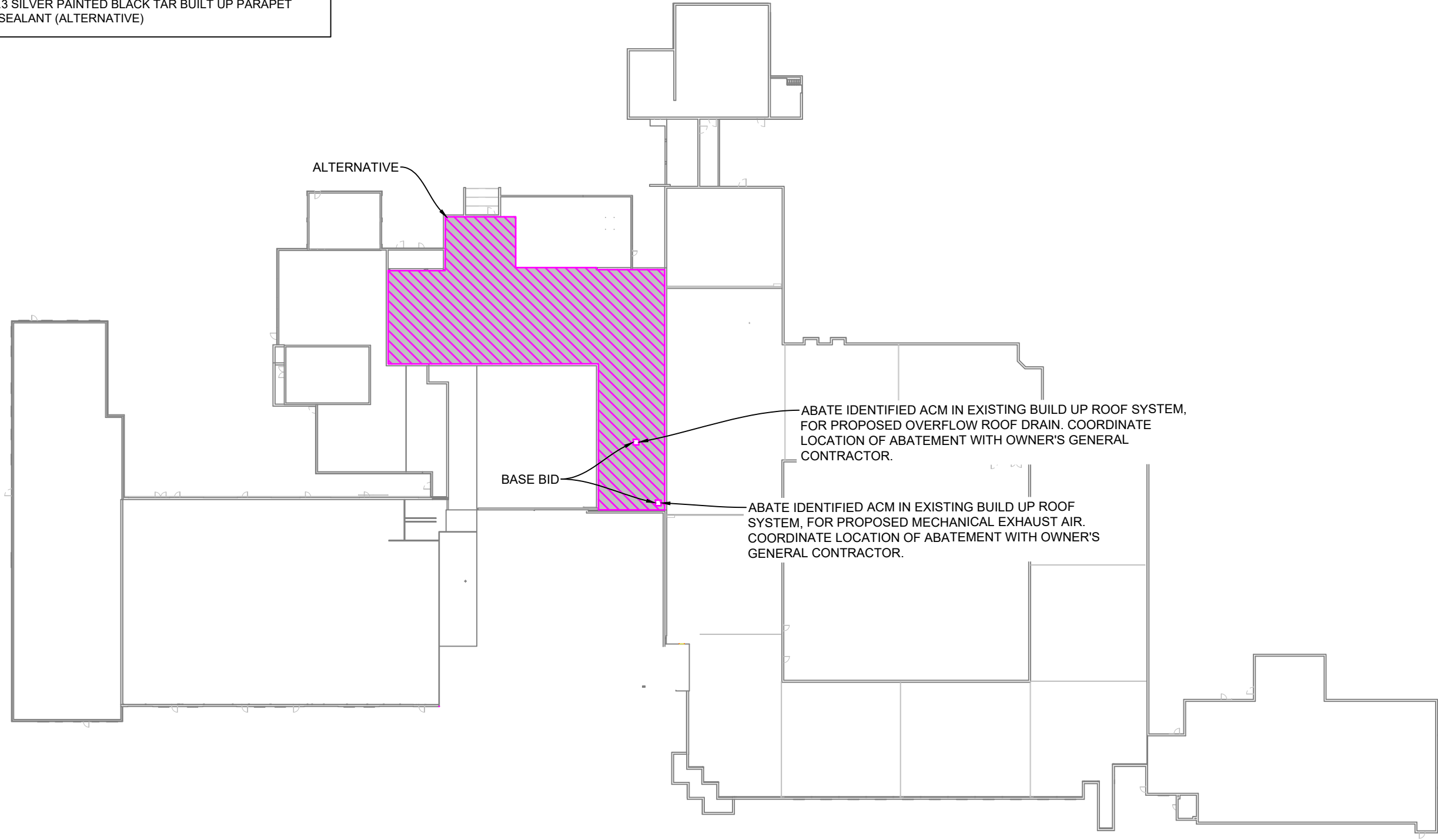
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CENTRAL MONTANA MEDICAL CENTER
 PRE-RENOVATION ASBESTOS ABATEMENT LOCATIONS
MAIN LEVEL PLAN VIEW
 FERGUS COUNTY, MONTANA

DESIGNED BY: KG
 DRAWN BY: JFN
 CHECKED BY: DDP
 DATE: 3/30/2023

LEGEND

-  CC-M1.3 SILVER PAINTED BLACK TAR BUILT UP PARAPET ROOF SEALANT (BASE BID)
-  CC-M1.3 SILVER PAINTED BLACK TAR BUILT UP PARAPET ROOF SEALANT (ALTERNATIVE)



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CENTRAL MONTANA MEDICAL CENTER
PRE-RENOVATION ASBESTOS ABATEMENT LOCATIONS
ROOF PLAN VIEW
 FERGUS COUNTY, MONTANA

DESIGNED BY: KG
 DRAWN BY: JFN
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 DATE: 3/30/2023

SHEET
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NO.	REVISION	BY	DATE
PROJECT NO. 2023-016			