ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

STOCKMAN BAR PROJECT

105 MAIN STREET

ROUNDUP, MUSSELSHELL COUNTY, MONTANA

April 28, 2021

Project No.: 74K-001-001

SUBMITTED BY: Trihydro Corporation

1252 Commerce Drive, Laramie, WY 82070

PREPARED FOR: Snowy Mountain Development Corporation

507 W Main St, Lewistown, MT 59457

Table of Contents

List of Tables

List of Figures

1.0 INTRODUCTION AND SITE BACKGROUND

This Analysis of Brownfields Cleanup Alternatives (ABCA) evaluates cleanup alternatives for the Stockman Bar building located in Roundup, Montana (Site). The building is vacant and the property is not being utilized. The Town of Roundup (Town) intends to clean up the Site and remove the structure, so the property can be put to beneficial use such as adding green space or an opportunity for a new leased development. The addition of green space or an actively utilized space on the main thoroughfare through Roundup will provide economic growth and assist in revitalization of the downtown area. This ABCA was prepared by Trihydro Corporation (Trihydro) on behalf of Snowy Mountain Development Corporation (SMDC), who is overseeing the project.

1.1 SITE LOCATION AND DESCRIPTION

The Site is located at 105 Main Street in Roundup, Montana. The property is a 0.08-acre parcel, with a parcel Geocode of 23-1717-13-3-11-02-0000, at an approximate latitude of 46.44217084791769° North, and approximate longitude of 108.5422747761250° West. The Site is located within an area zoned for commercial use and the legal description is ROUNDUP ORIGINAL TOWNSITE, S13, T08 N, R25 E, BLOCK 020, Lot 010, LT 10 BLK 20 RND ORIGINAL. The Site Location is shown on Figure 1-1, and the site layout is shown on Figure 1-2.

1.2 PREVIOUS SITE USES

The Stockman Bar building is an approximately 1,850 square feet (ft^2) single-story, wood frame commercial structure. The building was constructed in 1910, and was remodeled in 1985 and 2008. The building's first use was as a Grocery and Feed Goods store in 1912. It has since served as a candy store in 1920, and a retail store in 1944. The Site began operating as a bar/tavern sometime after that until approximately January 2018. In recent years it operated seasonally from June through January (Weston Solutions, Inc., 2020). The Site is currently vacant and in disrepair.

1.3 SITE ASSESSMENT FINDINGS

1.3.1 PHASE I ENVIRONMENTAL SITE ASSESSMENT

To facilitate assessment of the potential for hazardous materials in the building, SMDC submitted an application to the United States Environmental Protection Agency (EPA) for assessment assistance through the EPA Targeted Brownfields Assessment (TBA) Program. The EPA contracted with Weston Solutions, Inc. (Weston) to conduct a Phase I Environmental Site Assessment (ESA) for the Site. Weston prepared a Phase I ESA in June 2020, which included the following findings:

- No historical recognized environmental conditions (HREC), controlled RECs (CRECs), or recognized environmental conditions (REC) were identified in connection with the Site.
- The following non-scope considerations were identified in connection with the property: 1) potential hazardous building materials. Due to the age of construction, there is the potential for asbestos containing materials (ACM), lead based paint (LBP), fluorescent light fixtures with possible polychlorinated biphenyls (PCB)-containing ballasts, and mercury-containing ampule switches in thermostats in the buildings.

The Phase I ESA recommended conducting a Phase II ESA to evaluate the presence and/or extent of ACM, LBP, PCB- and mercury-containing material, and mold within the building structure.

1.3.2 PHASE II ENVIRONMENTAL SITE ASSESSMENT

A Phase II ESA was conducted in July 2020 by Weston. The Phase II ESA identified LBP, soil contamination associated with a former coal pile, one mercury ambule thermostat switch, mold, and friable and non-friable ACM (Weston 2020). Specific contaminants identified, and their approximate extents are as follows:

- Lead-Based Paint
  - Exterior: Black door frame (15 linear feet [LF]); black and red trim (170 LF).
  - Interior: Aqua, cream, and light gray wall paint (1,860 ft^2); one window frame and sash painted light gray.
- Asbestos Containing Material
  - 300 ft^2 of duct insulation in the basement (friable).
  - 35 ft^2 of vermiculite flooring identified in the basement (friable).
  - 850 ft^2 of floor tiling identified in the main floor of the building (non-friable).
  - 1,800 ft^2 of roofing material identified underlaying additional roofing material (non-friable).
- Basement Soil Contamination: A coal pile was identified in the basement of the structure. Soil samples collected from the dirt floor beneath the coal pile identified barium and lead concentrations exceeding generic Montana Department of Environmental Quality (DEQ) screening levels for leaching to groundwater (barium and lead) and direct exposure (lead), as identified in DEQ's soil-screening flow chart (DEQ 2018b). The quantity of soil overlain by the coal pile was not identified in the Phase II ESA.
- One mercury thermostat switch was identified in the building.
- Mold was identified throughout the building associated with water intrusion into the structure.

The Phase II ESA recommended contracting an accredited asbestos remediation company to determine the appropriate remedial actions to address the ACM identified at the Site, and recommended abatement of friable ACM prior to initiating building demolition. The non-friable ACM is classified as Category I non-friable and may be disposed of with construction debris if accepted by the landfill. If non-friable ACM is not abated and removed and disposed of as construction waste during building demolition, the construction workers would need to be made aware of its presence and implement appropriate protection measures during demolition. The Phase II ESA also recommended contracting an accredited lead remediation company to assess disposal requirements for LBP. Demolition of LBP-containing material should be performed using dust control methods and by an EPA Lead-Safe certified firm. The Phase II ESA recommended the excavation and disposal of soil in the vicinity of the coal pile, as well as toxicity characteristic procedure (TCLP) analysis of metals in soil. The mercury thermostat switch should be removed and properly disposed of prior to building demolition. Finally, the Phase II ESA recommended the control of potential airborne mold during building demolition via dust control/ventilation.

1.4 NATURE OF THREAT TO PUBLIC HEALTH

The presence of identified ACM, LBP, and potential miscellaneous hazardous building materials represents hazards to individuals entering the building. The structure is vacant and the Town plans to demolish the building and use the property for green space or potential beneficial commercial use. Identified ACM and other hazardous materials would need to be abated prior to demolition to reduce potential exposure risk to demolition workers through inhalation, ingestion, and contact. Prior to demolition, the identified materials could also pose an exposure risk to site visitors and trespassers. Soil contamination (i.e., barium and lead) may represent an exposure risk to site visitors through direct exposure and for leaching to groundwater.

1.5 PROJECT GOAL

The goal of the project is to adequately abate friable ACM and remove potentially hazardous materials prior to demolition. The building would then be demolished and the wastes would be disposed of off-site. Non-friable ACM and LBP may be removed during building demolition if proper demolition procedures are implemented to protect construction workers. Once cleanup and demolition activities are completed and documented, the Town would have the ability to redevelop the Site for green space and/or other uses to benefit the community.

2.0 REGULATORY OVERSIGHT AND APPLICABLE REGULATIONS AND CLEANUP STANDARDS

On May 20, 2020, SMDC applied to EPA for assistance in conducting Phase I and Phase II ESAs through the TBA Program. EPA's Superfund Technical Assessment and Response Team (START) contractor, Weston, conducted a Phase I ESA in July 2020 and subsequently performed a Phase II ESA in July 2020. Weston published the results of their Phase I and Phase II ESAs in September 2020.

SMDC applied to EPA for a Brownfields Revolving Loan Fund (RLF) Grant. EPA awarded SMDC a RLF grant, to conduct Brownfields tasks at various project sites. The Stockman Bar property owner, Delia Turley, transferred ownership of the Site to the Town of Roundup.

Regulatory oversight of the abatement of contaminants of concern (COC) at the Site is being performed by EPA's Region 8 Brownfields Program. SMDC is also coordinating with Montana DEQ's Brownfields Program to facilitate compliance with applicable state regulations.

During the cleanup and demolition process, SMDC will document cleanup activities were performed in accordance with applicable regulations. A Cleanup Completion Report detailing the cleanup activities will be submitted to EPA. The report will demonstrate applicable cleanup standards were obtained and request a liability assurance for the Site for applicable media.

Asbestos abatement activities on the Site will be subject to Montana DEQ's Asbestos Control Program, and remediation performed by an abatement contractor will be conducted under an asbestos project permit. Asbestos abatement and confirmation sampling will follow Administrative Rules of Montana (ARM) Title 17 Chapter 74, Subchapter 3. Asbestos abatement will also conform to EPA 40 Code of Federal Regulations (CFR) Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) Asbestos Construction Standard 29 CFR 1926.1101.

The lead-based paint abatement will be subject to the OSHA Lead Construction Standard 29 CFR 1926.62. The lead-based paint abatement activities will also be conducted in accordance with DEQ's Solid Waste Program.

Impacted soil located in the building basement will be remediated to meet applicable Montana DEQ screening levels. Lead in soils will be remediated to meet direct contact screening levels identified in DEQ's Memorandum on

Evaluating Lead in Soil (DEQ 2018a). Lead and barium in soils will also be remediated to meet applicable screening levels as identified in DEQ's soil screening flowchart (DEQ 2018b).

Additionally, cleanup alternatives that utilize active remediation strategies will adhere to EPA's Clean Remediation Best Management Practices: Clean Fuel & Emission Technologies for Site Cleanup (EPA 2010). This may include, but is not limited to, reducing idling of construction vehicles while on site, ensuring equipment is well maintained to minimize excess fuel use and discharge of uncombusted fuel products, and ensuring that vehicles are using the proper lubricants and fuels to ensure efficient operation. Additionally, in accordance with EPA's Green Remediation Best Management Practices: Excavation and Surface Restoration (EPA, 2019), remedial alternatives utilizing dust suppression techniques will use tarps to cover spoils piles where possible, thereby reducing water use at the site. Disposals will be selected as close to the site as possible, to minimize transport time and distance, and expenditure of fuels in trucking. Backfill will be acquired from sources as close as practicable to the site, to minimize fossil fuel expenditure. Loads will be covered to prevent disposition of waste and/or backfill soils along the trucking route.

3.0 EVALUATION OF CLEANUP ALTERNATIVES

SMDC has identified three potential cleanup alternatives to address the findings of the Phase I and II ESAs, which include:

- Alternative 1: No Action
- Alternative 2: Abatement of Friable ACM and Disposal of All ACM
- Alternative 3: Abatement and Removal of ACM and Hazardous Materials and Demolition and Disposal of Buildings

3.1 ALTERNATIVE 1: NO ACTION

In this alternative, no cleanup, abatement, or demolition would occur, and the existing structure would remain vacant and unused. While the No Action alternative would have minimal direct cost, it would also leave the building unused and the hazards in place. While no public access is currently allowed to the building, continued deterioration due to lack of use may lead to further exposure in the future. Additionally, the building potentially poses a risk to trespassers and ecological receptors.

Feasibility: This alternative is deemed infeasible due to the Town's intentions to demolish the structure.

Effectiveness: This alternative effectively controls potential exposure of citizens to the hazardous building materials in the short term but does not address long term exposure or provide a desirable change to the quality of life in the Town of Roundup.

Cost: Direct costs are minimal. Indirect costs include continued deterioration of the existing structures. Additional costs may be incurred to perform periodic monitoring of the structure's conditions and to maintain Site security.

3.2 ALTERNATIVE 2: ABATEMENT OF FRIABLE ACM AND DISPOSAL OF ALL ACM

In this alternative, the ACM identified in the structure as friable would be abated using friable abatement techniques and disposed of as friable ACM and non-friable ACM would be removed and disposed of as construction waste. This alternative also includes removal of one mercury-containing thermostat, prior to demolition. Assumptions made when creating the costs include: 1) All ACM (i.e., friable and non-friable) will be removed from the building and disposed off-site and no ACM will be left in place; and, 2) ACM will be disposed of at the DEQ-permitted Billings Regional Landfill located in Billings, MT. 3) Friable ACM abatement will be performed by a certified asbestos abatement contractor using applicable abatement procedures and nonfriable ACM will be removed using proper demolition

procedures to protect construction workers. This alternative assumes disposal of approximately 2.5 CY of friable asbestos and 12.3 CY of non-friable asbestos.

Feasibility: This alternative is technologically feasible and meets State requirements.

Effectiveness: This alternative is effective in removing ACM at the Site but leaves presumed LBP and potential hazardous building materials in place where they may be susceptible to damage and cause potential exposure to receptors.

Cost: The capital cost for this alternative is estimated to be $49,353. This estimate includes a 15% contingency for costs associated with additional materials that may not have previously been identified, and variances in volumetric measurements of ACM at the site. The contingency may not cover all potential costs of unforeseen conditions. The cost estimate is shown in Table 3-1.

3.3 ALTERNATIVE 3: ABATEMENT AND REMOVAL OF ACM AND HAZARDOUS MATERIALS AND DEMOLITION AND DISPOSAL OF BUILDING

In this alternative, identified ACM (both friable and non-friable) would be abated (friable only), removed and disposed as described in Alternative 2 prior to building demolition. This alternative also includes removal of one mercury-containing thermostat, prior to demolition. During building demolition the contractor would implement procedures to control dust and airborne containments (i.e., LBP and mold) in accordance with standard operating procedures for demolition of LBP and mold containing structures. During demolition, the coal pile area will also be excavated to remove lead and barium impacted soil. Prior to structure demolition, a structural engineering analysis would be performed to evaluate potential effects demolition of the Stockman Bar building would have on the adjacent structure at 102 North Main Street.

Demolition and construction waste would require LBP Toxicity Characteristic Leaching Procedure (TCLP) sampling to evaluate disposal options. Properly characterized waste would be disposed at a Montana DEQ-permitted facility. LBP procedures and regulations applicable to remediation project design and implementation would be followed. Assumptions made when creating the cost estimate for this alternative include: 1) The concrete basement walls and footings would be demolished; 2) Debris would be considered non-hazardous for disposal purposes based on the TCLP samples for LBP waste; 3) one mercury-containing thermostat ampule would be removed prior to building demolition activities; 4) airborne LBP and mold in the structures would be controlled during demolition; 5) Excavated soil would be non-hazardous based on TCLP samples for lead and barium; and 6) Suitable backfill material is available in Roundup.

Feasibility: This alternative is technologically feasible and meets DEQ requirements. Brownfields RLF grants can be used for cleanup and abatement, but not for demolition of buildings. Brownfields RLF grants can be used for limited site characterization including confirming the effectiveness of the proposed cleanup design, which would include structural analysis of the proposed alternative.

Effectiveness: This alternative is effective in cleaning up the Site and allows the Site to be redeveloped. It eliminates the exposure pathway to potential receptors by removing hazardous and deleterious substances from the site.

Cost: The capital cost for this alternative is estimated to be $122,091. This estimate includes a 15% contingency for costs associated with additional materials that may not have previously been identified. The contingency may not cover all potential costs of unforeseen conditions. The cost estimate for this alternative is shown in Table 3-2.

4.0 RECOMMENDATIONS

Each alternative has been evaluated for feasibility, effectiveness and cost. Alternative 1 is the "No Action" alternative and would not allow for redevelopment of the Site. Alternatives 2 and 3 address different levels of cleanup, but only Alternate 3 allows for redevelopment of the Site as green space or beneficial commercial use, as the building is currently unsuitable for occupation. Therefore, the selected cleanup alternative is Alternative 3 as discussed below.

4.1 REJECTED ALTERNATIVES

Alternative 1: No Action – This alternative is removed from consideration as it will not allow for redevelopment of the Site and provides for the potential exposure of receptors (e.g., visitors, trespassers, ecological) to uncontrolled ACM, LBP, metals-impacted soils, and hazardous materials.

Alternative 2: Abatement of Friable ACM and Disposal of All ACM, including removal and disposal of the mercury containing switch – This alternative would remove the friable and non-friable ACM; however, it would leave LBP, mold, and metals-impacted soils within the structure and allow for potential exposure to Site visitors, trespassers, and ecological receptors. It is not selected because the building would not be demolished and the Town is considering using the property for green space or beneficial commercial use.

4.2 SELECTED ALTERNATIVE

Alternative 3: Abatement and Removal of ACM and Hazardous Materials and Demolition and Disposal of Building – The selected alternative is to abate friable asbestos and remove and dispose of all ACM, remove and dispose of one mercury-containing thermostat switch, and excavate and dispose of impacted soil associated with the coal pile. Prior to abatement, a structural analysis will be performed to evaluate potential impacts of demolition of the Stockman Bar building to the adjacent structure at 102 North Main Street. After abatement of the friable ACM and removal of the mercury switch and impacted soil, the building would be demolished and the waste disposed off-site at a Montana DEQ-permitted landfill. This alternative is selected because it removes identified hazards either prior to or during building demolition, characterizes waste materials, and mitigates the potential hazards to receptors. Additionally, mercury-containing switches and metals-impacted soils will be removed, mitigating hazards to human health and the environment. This alternative also allows for the Town's planned redevelopment of the Site. The cost differential between Alternative 2 and 3 is also relatively small for the additional benefit to be gained by demolition of the building to allow for Site redevelopment.

5.0 REFERENCES

DEQ. 2018a. Evaluating Lead in Soil. Helena.

DEQ. 2018b. Surface and Subsurface Soil Screening Flowchart. Helena: Montana DEQ.

EPA. 2010. Green Remediation Best Management Practices: Clean Fuel & Emission Technologies for Site Cleanup. EPA 542-F-10-008. August.

EPA. 2019. Green Remediation Best Management Practices: Excavation and Surface Restoration. EPA 542-F-19-002. August.

Weston Solutions, Inc. 2020. PHASE II ENVIRONMENTAL SITE ASSESSMENT . Lakewood, CO. July.

TABLES

TABLE 3-1. ALTERNATIVE 2 COST ESTIMATE
ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES
STOCKMAN BAR PROJECT, ROUNDUP, MONTANA

Direct Capital Costs	Quantity	Unit	Unit Cost		Total Cost	
Equipment mobilization/demobilization (10% of direct capital costs)	10%	%	$	31,094.61	$	3,109.46
Site personnel PPE	1	ea	$	1,200.00	$	1,200.00
Site preparation (plastic sheeting, wipes, etc.)	1	ea	$	8,500.00	$	8,500.00
Asbestos Roofing Removal (non-friable)	1800	ft^2	$	2.25	$	4,050.00
Asbestos Duct Insulation Abatement (friable)	300	ft^2	$	2.50	$	750.00
Vermiculite Abatement (friable)	35	ft^2	$	3.50	$	122.50
Floor Tile Abatement (non-friable)	850	ft^2	$	3.50	$	2,975.00
Air sampling	5	ea	$	40.95	$	204.75
Additional Site Preparation, Asbestos Abatement, and Labor	1	ea	$	5,500.00	$	5,500.00
Equipment rental (negative air, sampling, vaccum, etc.)	1	day	$	3,400.00	$	3,400.00
Waste Hauling	116	miles		$7.85		$910.60
Disposal of Friable ACM	2.5	yd^3	$	67.96		$169.90
Disposal of Non-Friable ACM	12.3	yd^3	$	51.96		$639.11
Waste Container Rental	1	ea	$	172.75		$172.75
Miscellaneous additional permitting, disposal coordination	1	ea	$	2,500.00		$2,500.00
				Total Direct Costs	$	34,204.07

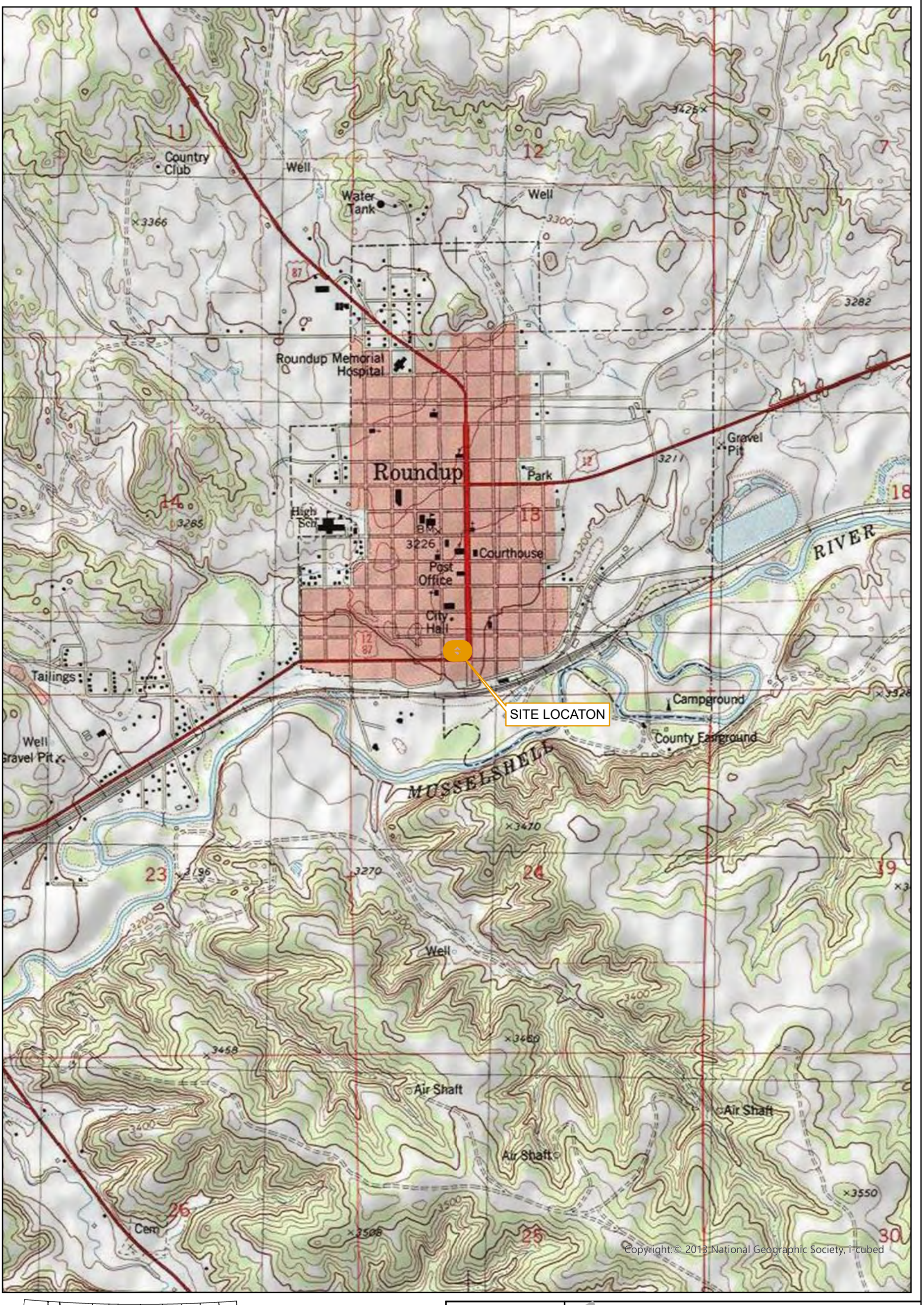
Indirect Capital Costs	Quantity	Unit	Unit Cost		Total Cost	
Asbestos Abatement Work Plan	1	ea	$	1,200.00	$	1,200.00
Asbestos Control Program Permit	1	ea	$	250.00	$	250.00
Health and Safety Plan	1	ea	$	1,200.00	$	1,200.00
Field Oversight	1	ea	$	5,768.00	$	5,768.00
Contingency (15% of direct capital costs)	15%	%	$	34,204.07	$	5,130.61
Project Administration	1	Ea	$	1,600.00	$	1,600.00
				Total Indirect Costs	$	15,148.61
				Total Costs	$	49,352.68

TABLE 3-2. ALTERNATIVE 3 COST ESTIMATE
ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES
STOCKMAN BAR PROJECT, ROUNDUP, MONTANA

Direct Capital Costs	Quantity	Unit	Unit Cost	Total Cost
Equipment mobilization/demobilization (10% of direct capital costs)	10%	%	$ 82,389.61	$ 8,238.96
Site personnel PPE	1	ea	$ 1,200.00	$ 1,200.00
Site preparation (plastic sheeting, wipes, etc.)	1	ea	$ 8,500.00	$ 8,500.00
Asbestos Roofing Removal (non-friable)	1800	ft^2	$ 2.25	$ 4,050.00
Asbestos Duct Insulation Abatement (friable)	300	ft^2	$ 2.50	$ 750.00
Vermiculite Abatement (friable)	35	ft^2	$ 3.50	$ 122.50
Floor Tile Abatement (non-friable)	850	ft^2	$ 3.50	$ 2,975.00
Air sampling	5	ea	$ 40.95	$ 204.75
Additional Site Preparation, Asbestos Abatement, and Labor	1	ea	$ 5,500.00	$ 5,500.00
Equipment rental (negative air, sampling, vaccum, etc.)	1	day	$ 3,400.00	$ 3,400.00
Utility location and coordination	1	ea	$ 1,000.00	$1,000.00
Building Demolition	22200	ft^3	$ 0.39	$8,658.00
Demolition of basement footings/retaining walls	1850	ft^2	$ 0.72	$1,332.00
Soil excavation	9	yd^3	$ 250.00	$2,314.81
Excavation backfill, compaction, and regrading	411	yd^3	$ 10.85	$4,459.37
Fill material	411	yd^3	$ 15.00	$6,165.00
Re-seeding and restoration	1850	ft^2	$ 0.050	$92.50
Waste Hauling	1392	miles	$7.85	$10,927.20
Disposal of Friable ACM	2.5	yd^3	$ 67.96	$169.90
Disposal of Non-Friable ACM	12.3	yd^3	$ 51.96	$639.11
Disposal of building debris and soil	366.2	yd^3	$ 41.93	$15,356.47
Waste Container Rental	12	ea	$ 172.75	$2,073.00
Miscellaneous additional permitting, disposal coordination	1	ea	$ 2,500.00	$2,500.00
			Total Direct Costs	$ 90,628.57

Indirect Capital Costs	Quantity	Unit	Unit Cost	Total Cost
Asbestos Abatement Work Plan	1	ea	$ 1,200.00	$ 1,200.00
Demolition Work Plan	1	ea	$ 400.00	$ 400.00
Asbestos Control Program Permit	1	ea	$ 250.00	$ 250.00
Health and Safety Plan	1	ea	$ 1,200.00	$ 1,200.00
Field Oversight	1	ea	$ 5,768.00	$ 5,768.00
Contingency (15% of direct capital costs)	0.15	%	$ 90,628.57	$ 13,594.29
Project Administration	1	Ea	$ 1,600.00	$ 1,600.00
Geotechnical Engineering Evaluation	1	ea	$7,451	$ 7,450.54
			Total Indirect Costs	$ 31,462.83
			Total Costs	$ 122,091.40

FIGURES



DRAFT

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307.745.7474 (F) 307/745.7729

FIGURE 1-1

SITE LOCATION MAP

STOCKMAN BAR
105 MAIN STREET
ROUNDUP, MT

Drawn By: KEJ	Checked By: ST	Scale: 1" = 1,400'	Date: 2/25/21	File: 1-1_SiteLocation_Fig1-1

\\TRIHYDRO.COM\CLIENTS\STOVS\NOWYMTNDEV\GIS\MAPPING\STOCKMAN\RA\RABCA_02152021\2021\SNOWYMTNDEV_ABCA_2021.APRX

EXPLANATION

APPROXIMATE SITE EXTENT

N

0 50'

Trihydro CORPORATION
1. 52 ommerce Drive
L ram e, WY 82070
www.trihydro.com
(P) 30 745.7474 (F) 307/745.7729

DRAFT

FIGURE 1-2

SITE LAYOUT MAP

STOCKMAN BAR
105 MAIN STREET
ROUNDUP, MT

Drawn By: KEJ	Checked By: ST	Scale: 1" = 50'	Date: 2/25/21	File: 1-2_SiteLayout_Fig1-2