



## Five-Year Review Report

Libby Asbestos Superfund Site

*Libby, Montana*

June 2015

Prepared by U.S. Environmental Protection Agency, Region 8, Denver, Colorado

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## **LIST OF ACRONYMS**

ABS	activity-based sampling
ARARs	Applicable or Relevant and Appropriate Requirements
ARP	Lincoln County Asbestos Resource Program
BERA	Baseline Ecological Risk Assessment
bgs	below ground surface
BNSF	BNSF Railway
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CTE	central tendency exposure
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
HHRA	Human Health Risk Assessment
HQs	Hazard Quotients
IC	institutional control
IRIS	Integrated Risk Information System
LA	Libby Amphibole
MDEQ	Montana Department of Environmental Quality
MDT	Montana Department of Transportation
MT	Montana
NCP	National Contingency Plan
NPL	National Priority List
O&M	Operation and Maintenance
OU	Operable Unit
RA	Remedial Action
RAO	Remedial Action Objective
RAWP	Response Action Work Plan
RD	Remedial Design
RI	Remedial Investigation
RME	Reasonable Maximum Exposure
ROD	Record of Decision
USACE	U.S. Army Corps of Engineers

## EXECUTIVE SUMMARY

The U.S. Environmental Protection Agency (EPA) Region 8 conducted the first five-year review of the Libby Asbestos Superfund Site (Site) in Lincoln County, Montana (MT), including the cities of Troy and Libby, MT. The purpose of this five-year review is to determine whether implemented remedies are protective of human health and the environment. The trigger action for this review was the initiation of remedial action (RA) at Operable Unit Two (OU2). To date, RAs have been implemented at Operable Unit One (OU1) and OU2. Because hazardous substances, pollutants, or contaminants remain at OU1 and OU2 at levels that do not allow for unrestricted use and unlimited exposure, a five-year review is required by statute.

Libby is located in the northwest corner of Montana, 35 miles east of Idaho and 65 miles south of Canada. The town lies in a valley carved by the Kootenai River. A large open-pit vermiculite mine is located approximately 5 miles northeast of Libby, MT. Vermiculite ore from this mine contains amphibole-type asbestos. This asbestos includes several different mineralogical classifications, and is referred to as Libby Amphibole (LA). Historic mining, milling, and processing of vermiculite at the Site are known to have caused releases of vermiculite and LA to the environment. The Site is divided into eight OUs. OU1 (Riverfront Park) is the location of a former vermiculite Export Plant and is situated on the Kootenai River adjacent to downtown Libby. OU2 is the location of a former vermiculite Screening Plant and is situated approximately 4 miles west northwest of downtown Libby on the Kootenai River. Other Site OUs include the following:

- **OU3:** The boundary of OU3 is still being defined and includes, but is not limited to, the Former Vermiculite Mine, the mine property, the Kootenai River and the sediments therein, Rainey Creek, Rainey Creek Road, and areas in which tree bark is contaminated with such hazardous substances and/or pollutants or contaminants.
- **OU4:** Residential, commercial, and public properties, including schools and parks in and around Libby.
- **OU5:** Properties that were part of the Former Stimson Lumber Mill and that are now owned and managed by the Lincoln County Port Authority.
- **OU6:** The rail yard owned and operated by BNSF Railway (BNSF) and extent of contamination associated with BNSF rail operations:
- **OU7:** Residential, commercial, and public properties in and around the Town of Troy, MT, approximately 20 miles west of downtown Libby.
- **OU8:** U.S. Highways, Montana State Highways, and secondary highways that lie within the boundaries of the Site.

Protectiveness determinations cannot be made for OUs 3-8 because RA has not been initiated at these OUs, but removal actions taken to mitigate risk at these OUs are summarized later in the report.

From the early 1960s to approximately 1990, W. R. Grace used the OU1 vermiculite for processing and for stockpiling and distributing vermiculite concentrate to processing plants throughout the United States. At processing plants, vermiculite ore was exfoliated by rapid heating. Exfoliation created pockets of air that made the material suitable for use as insulation or as a soil amendment. Ownership of the W. R. Grace property and plant was transferred to the City of Libby in the mid-1990s. Other commercial and industrial uses of OU1 that occurred in the past included a metal scrap dealer and a larch tree gum manufacturer.

W. R. Grace utilized the plant at OU2 from 1975 to 1990 to screen mined vermiculite by size and grade. The vermiculite was transported from the OU3 mine to OU2 by truck, sorted, and bulk stored in two sheds. The vermiculite was then loaded onto a conveyor system and transported across the Kootenai River to a conveyor unloading station. Once the vermiculite was transported across the river, it was either trucked to the local Export Plant (OU1) for processing and shipping, or loaded onto rail cars for transportation and distribution to exfoliation plants outside of Libby. Properties surrounding the Former Screening Plant that were used to support plant operations were included at OU2.

The records of decision (RODs) for OU1 and OU2 were completed in 2010. At both OUs, the remedy consisted of a combination of excavation and disposal of LA-contaminated soils, capping, operation and maintenance, and institutional controls. Contaminated soils were disposed of at the Former Vermiculite Mine (OU3). Remedial action was completed at OU1 in July 2013 and at OU2 in May 2012.

The remedy implemented at each OU is protective of human health and the environment. Institutional controls have been implemented that protect the remedies. Operation and maintenance plans have been developed and implemented.

The OU1 and OU2 RODs each required the completion of post-construction risk assessments. The *Draft Site-wide Human Health Risk Assessment for the Libby Asbestos Superfund Site*, completed in December 2014, included post-construction human health risk assessments for OU1 and OU2. It concluded that post-construction non-cancer risks at both OUs are less than a level of concern for the potential exposure scenarios identified. Cancer risks were within EPA's acceptable cancer risk range (1 in 1,000,000 to 1 in 10,000) or lower.

## FIVE-YEAR REVIEW SUMMARY FORM

Site Identification		
<b>Site Name:</b> Libby Asbestos Site		
<b>EPA ID:</b> MT0009083840		
<b>Region:</b> 8	<b>State:</b> MT	<b>City/County:</b> Libby/Lincoln
Site Status		
<b>NPL Status:</b> Final		
<b>Multiple OUs?</b> Yes	<b>Has the site achieved construction completion?</b> No	
Review Status		
<b>Lead agency:</b> EPA		
<b>Author name (Federal or State Project Manager):</b> Dania Zinner, Federal Project Manager		
<b>Author affiliation:</b> US EPA, Region 8		
<b>Review period:</b> September 2010 – February 2015		
<b>Date of site inspection:</b> September 25, 2014		
<b>Type of review:</b> Statutory		
<b>Review number:</b> 1		
<b>Triggering action date:</b> September 27, 2010		
<b>Due date (five years after triggering action date):</b> September 27, 2015		
Issues/Recommendations		
<b>OU(s) without Issues/Recommendations Identified in the Five-Year Review:</b>		
OUs 1 through 8		
Protectiveness Statements		
<b>OU:</b> OU1	<b>Protectiveness Determination:</b> Protective	<b>Addendum Due Date:</b> N/A
The remedy at OU1 is protective of human health and the environment.		
<b>OU:</b> OU2	<b>Protectiveness Determination:</b> Protective	<b>Addendum Due Date:</b> N/A
The remedy at OU2 is protective of human health and the environment.		

## **1.0 INTRODUCTION**

### **1.1 Purpose of the Review**

The purpose of five-year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in five-year review reports. In addition, five-year review reports identify issues found during the review, if any, and recommendations to address them.

### **1.2 Authority for Conducting the Five-Year Review**

EPA Region 8 prepared this five-year review pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section (§) 121 and the National Contingency Plan (NCP). CERCLA §121 states:

*If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The EPA interpreted this requirement further in the NCP; 40 Code of Federal Regulations (CFR) §300.430(f)(4)(ii) states:

*If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

### **1.3 Who Conducted the Five-Year Review**

EPA Region 8 conducted the five-year review of remedial actions implemented at the Libby Asbestos Superfund Site OU1 and OU2 in Libby, Montana. The review period is from September 2010 to January 2015 and this report documents the results of the review. HDR Engineering, Inc. (HDR) of Denver, Colorado, was retained by EPA Region 8 to provide technical support during preparation of the five-year review report.

### **1.4 Other Review Characteristics**

This is the first five-year review for the Site. The triggering action for this review is the initiation of remedial construction activities at OU2. Because hazardous substances, pollutants, or contaminants remain at OU1 and OU2 at levels that do not allow for unrestricted use and unlimited exposure, a statutory five-year review is required.

The Site consists of eight OUs. Figure 1 is a plan view of the OUs. (Figures are located following the text of the report.) Protectiveness determinations can be made only for OU1 and OU2, because remedial action is complete for those areas. A status summary for the remaining six OUs is included in the report.

## 2.0 SITE CHRONOLOGY

*Table 1: Chronology of Site Events*

<b>Event</b>	<b>Date</b>
Hard rock mining began in Libby area	1880s
Prospector located vermiculite deposits	1900s
Zonolite Company began vermiculite mining on Rainy Creek claims	1919
W. R. Grace bought Zonolite Company, including the mine and associated facilities, and operated until 1990.	1963–1990
The Former Export Plant (OU1) was used for exfoliating, stockpiling, and distributing vermiculite concentrate.	1963–1990
Concentrated ore produced by milling was transported to a screening plant (Former Screening Plant– OU2).	1963–1990
OU2 was operated as a nursery	1993–2000
Ownership of OU1 was transferred to the City of Libby.	Mid-1990s
Multiple uses of OU1 including recreation and retail lumber (Millwork West Company)	1990–2000
Onset of Superfund involvement	1999
Studies and investigations were conducted at OU1.	1999–2007
Studies and investigations were conducted at OU2.	1998–2008
Early OU1 response actions, which included removal of contaminated soils and building debris.	2000–2008
Early OU2 response actions, which included removal of contaminated soils and building debris as well as replacing a potable water supply well.	2000–2006
Millwork West Company buildings on OU1 were demolished by W. R Grace	2001
David Thompson Search and Rescue erected a building on the northwest portion of OU1	2004
OU1 Remedial Investigation (RI) and Feasibility Study (FS) Reports completed	August 2009
OU2 RI and FS Reports completed	August 2009
OU1 Record of Decision (ROD) completed	May 10, 2010
OU2 ROD completed	May 10, 2010
OU2 Remedial Design (RD) completed	September 2010
OU1 RD completed	August 2011
OU2 Remedial Action (RA) Report completed	April 20, 2012
OU1 RA Report completed	July 8, 2013
OU2 determined operational and functional	August 1, 2013

## 3.0 BACKGROUND

### 3.1 Physical Characteristics

Libby is located in the northwest corner of Montana, 35 miles east of Idaho and 65 miles south of Canada. The town lies in a valley carved by the Kootenai River. A large open-pit vermiculite mine is located approximately five miles northeast of Libby. Vermiculite from this mine contains amphibole-type asbestos that includes several different mineralogical classifications, and is referred to as Libby amphibole (LA). Historic mining, milling, and processing of vermiculite at the Site are known to have caused releases of vermiculite and LA to the environment. The National Priorities List (NPL) Site includes the mine and surrounding areas, the towns of Libby and Troy, the mine operations area, as well as transportation routes and waterways. Refer to Figure 1 for the location and plan view of the Site.

Libby, the county seat for Lincoln County, Montana, has a population of approximately 2,700. Troy, located 20 miles west of Libby, has a population of about 950. Areas of the Site outside of the towns are generally lightly populated, mountainous woodlands.

OU1 once supported vermiculite mine-related activities, and is situated just north of the downtown area of Libby. Refer to Figure 2 for a plan view of OU1. The property includes approximately 17 acres and is bounded by the Kootenai River on the north, Montana Highway 37 on the east, the BNSF Railway (BNSF) thoroughfare on the south, and State of Montana property on the west. Based on land use at the time of the Remedial Investigation (RI), OU1 is referred to as Riverfront Park and is divided into three areas:

- Area 1: Located on the west side of Highway 37 and south of City Service Road (also known as West Thomas Street) encompassing approximately 12 acres.
- Area 2: Riverfront Park, located on the west side of Highway 37 and south of City Service Road, encompassing approximately 4.7 acres.
- Area 3: Embankments of Highway 37 on both sides of the highway, City Service Road, and Thomas Street.

OU2 is located approximately five miles northeast of Libby on the east side of the Kootenai River and covers approximately 43 acres. Refer to Figure 3 for a plan view of OU2. OU2 is referred to as the Former Screening Plant and is divided into subareas including:

- The Former Screening Plant operations area (Subarea 1, approximately 21 acres),
- W. R. Grace property to the south referred to as the Flyway property (Subarea 2, approximately 19 acres),
- A private property on the east side of the OU2 (Subarea 3, approximately 1 acre),
- Two private properties immediately north and south of Rainy Creek Road on the east side of Highway 37 (Subarea 4, approximately 1 acre each).

A brief description and status report of OU3 through OU8, which are not evaluated in this five-year review, are provided in Table 2.

Table 2: Description and Status of Operable Units 3 Through 8

OU	Description	Status
OU3	The boundary of OU3 is still being defined and includes, but is not limited to, the Former Vermiculite Mine, the mine property, the Kootenai River and the sediments therein, Rainey Creek, Rainey Creek Road, and areas in which tree bark is contaminated with hazardous substances and/or pollutants or contaminants.	<p>In 2012 and 2013, a removal action was completed at OU3 in a four-acre area west of the vermiculite mine and southwest of the mill pond ('the amphitheater'). 15,613 cubic yards of vermiculite waste were removed from the area and landfilled at the mine. The removal area was backfilled and re-vegetated.</p> <p>In accordance with an Administrative Settlement Agreement and Order on Consent signed in September 2008, remedial investigation is currently being conducted by W.R. Grace and Kootenai Development Corporation. The RI Report is scheduled for completion in 2015.</p>
OU4	Includes residential, commercial, and public properties, including schools and parks in and around Libby. OU4 includes only those properties not included in other OUs.	<p>Beginning in 2000 and continuing through 2014, EPA has investigated and conducted removal actions from the interiors and exteriors of Libby homes and businesses. Through 2014, more than 6,000 properties were investigated and removal actions were completed at more than 2,000 properties.</p> <p>The RI Report for OU4 was completed in 2014 and the FS is scheduled for completion in 2015.</p>
OU5	Properties that were part of the Former Stimson Lumber Mill and that are now owned and managed by the Lincoln County Port Authority. Primarily an industrial area but also includes a Motocross Park and recreational trail.	<p>From 1999 through 2005 there were 11 separate removal actions completed to remove asbestos containing materials from buildings on OU5. Beginning in 2009 and through 2013, an additional 11 removal actions were conducted, primarily to remove Libby Amphibole (LA) contaminated soil and building materials.</p> <p>The RI Report for OU5 was completed in 2013 and the FS is scheduled for completion in 2015.</p>
OU6	The rail yard owned and operated by BNSF Railway is geographically defined by the BNSF property boundaries and contamination associated with BNSF rail operations. Generally, the boundary is as wide as the railroad right-of-way.	<p>BNSF conducted removal actions at its rail yard in 2004 and 2005 to remove vermiculite-impacted soils. In 2010, BNSF conducted a removal action in Troy to remove LA contaminated wastes from a concrete bunker structure.</p> <p>Investigation activities at OU6 were initiated in 2001 and continued through 2013. The RI Report was published in 2014 and the FS is scheduled for completion in 2015.</p>
OU7	Residential, commercial, and public properties in and around Troy, approximately 20 miles west of downtown Libby.	<p>Removal actions were completed at more than 100 properties at OU7.</p> <p>The RI Report for OU7 was completed in 2014 and the FS is scheduled for completion in 2015.</p>
OU8	U.S. Highways, Montana State Highways, and secondary highways that lie within the boundaries of the Site.	The RI Report for OU8 was completed in 2013 and the FS is scheduled for completion in 2015.

## 3.2 Land and Resource Use

Each of the operable units includes distinct areas. Land and resource use is described for each of these areas. Refer to Figures 2 and 3 for areas within OU1 and OU2, respectively.

### 3.2.1 OUI

Area 1 is currently owned by the City of Libby and is undeveloped, with the exception of the property currently used by the David Thompson Search and Rescue building. In 2004, the search and rescue organization constructed a building containing a main office and a five-bay garage on the northwest portion of Area 1 on the south side of City Service Road. The garage is used for storing search and rescue equipment and vehicles. Several other agencies, including local and state law enforcement, also hold meetings in the main office. Property access within Area 1 is unrestricted, though the building is secured.

Area 2, Riverfront Park, is owned by the City of Libby and serves a variety of recreational visitors. The main features of the park include two boat ramps, two pavilions, picnic tables, and a pump house. The newer of the two boat ramps is used by recreational boaters and commercial fishing outfitters. The older ramp is not commonly used due to the swift current at its approach. The pump house contains a pump that draws non-potable water from the Kootenai River. The pump was installed jointly by the City of Libby and Lincoln County in 1999 to provide a backup water source to local fire departments. The pump house is accessed by city personnel to perform maintenance on the pump. The pump is connected to an external water spigot, which is used by the City of Libby to draw water for street sweeping and other maintenance operations, and by other workers (such as employees of local fill pits) to draw water primarily for use in dust suppression equipment. Access to Area 2 is unrestricted. A Veterans Memorial was constructed in Area 2 in 2013.

Area 3 is owned and maintained by the Montana Department of Transportation (MDT). The types of maintenance activities conducted by MDT include application of herbicides, replacement of guardrails and guardrail posts, and replacement and maintenance of roadside light posts. Access to this area is unrestricted.

Area 1 is used as an open park area. The city expects that David Thompson Search and Rescue will continue to utilize the northwest portion of Area 1. Area 2 (Riverfront Park) will continue to serve recreational visitors. A change in land use is not currently anticipated. It is also anticipated that Area 3 land use will not change and will remain undeveloped, owned and maintained by MDT.

The sole exposure route for LA found in the RI to pose human health risks above a level of concern was inhalation at OU1. Groundwater and surface water are not significant media of concern for inhalation and therefore were not investigated as part of the OU1 RI. Potential effects on surface water are evaluated in the site-wide ecological risk assessment.

### 3.2.2 OU2

The Former Screening Plant (Subarea 1) is currently privately owned and is being used for residential purposes. Access is restricted. Buildings used for mining operations were demolished in the early 2000's. It is anticipated and assumed that this subarea will continue to be used for residential and/or commercial purposes.

The Flyway property (Subarea 2) is owned by W.R. Grace and is undeveloped. Access to the property is restricted. There are no anticipated changes in the future land use.

The private property on the east side of the OU2 (Subarea 3) and Rainy Creek Road Frontage properties (Subarea 4) are undeveloped and privately owned. Access to both of these subareas is unrestricted. There are no anticipated changes in the future land use.

All subareas include portions of the Highway 37 right-of-way that are maintained by MDT. These areas are assumed to have non-residential use now and in the future. Due to steep topography and locations within the right-of-way, it is expected that recreational and commercial use would be limited.

As described for OU1, EPA does not consider groundwater and surface water to be viable pathways for exposure at OU2. During investigation, an existing well at OU2 was sampled and found to meet National Primary Drinking Water Regulations.

### **3.3 History of Contamination**

Operations at the mine included blast and drag-line mining and milling of vermiculite ore. Dry milling was performed through 1985, and wet milling was performed from 1985 until closure in 1990. After milling, concentrated ore was transported down Rainy Creek Road by truck to the Former Screening Plant (OU2) adjacent to Highway 37, at the confluence of Rainy Creek and the Kootenai River. Here vermiculite ore was sorted by size, and loaded for transport by rail or truck to processing facilities in Libby and nationwide.

At the processing plants, ore was exfoliated by rapid heating. Exfoliation expanded the ore, creating pockets of air that made the material suitable for use as insulation or as a soil amendment. The vermiculite was then sent to market via truck or rail. Historic maps show the location of the Zonolite Company processing operation at the edge of a lumber mill, near present day Libby City Hall. This older processing plant was taken off line and demolished sometime in the early 1950s. The lumber mill, including the property where the vermiculite was processed, is included as OU5 of the Site, and is referred to as the Former Stimson Lumber Mill.

The other processing plant (known today as the Former Export Plant – OU1), was located near downtown Libby near the Kootenai River and Highway 37. Exfoliating operations at the plant ceased sometime prior to 1981, although existing plant buildings were used to bag and export milled ore until 1990. After operations at the Former Export Plant ceased, various commercial and industrial businesses operated from the former plant location until W. R. Grace and EPA began removal activities in 2000.

Over the course of W. R. Grace's operation in Libby, invoices indicate shipment of nearly 10 billion pounds of vermiculite from Libby. Most of this was shipped and used within the U.S. Nearly all of this material ended up in a variety of commercial products that were marketed and sold to millions of consumers.

In response to local concerns and news articles, an EPA Response Team conducted an initial investigation at Libby on November 23, 1999. This initial investigation consisted of inspection of the Former Vermiculite Mine (OU3) and processing facilities; interviews with local officials and some members of impacted families; an interview with a pulmonologist in Spokane, Washington, who specializes in the treatment of asbestos-related diseases; and the collection of a small set of environmental samples.

The initial investigation revealed two important findings. First, there were a large number of current and historic cases of asbestos-related diseases centered in and around Libby. In 1999, a pulmonologist in Spokane was treating more than 200 cases of asbestos-related diseases among

people who had either lived in Libby or worked at the mine, and had provided care to dozens more who had already died.

The second finding was the likelihood that significant amounts of asbestos-contaminated vermiculite remained in and around Libby. From the inspection, it was evident that high concentrations of LA remained in the tailings pile and tailings pond at the Former Vermiculite Mine (OU3). In addition, visible piles of unexfoliated vermiculite remained at the Former Screening Plant (OU2). Historic sampling by W. R. Grace and EPA documented that the unexfoliated vermiculite from the Libby mine contained asbestos concentrations ranging from reported trace to 7% fibrous LA by weight. Residents recounted how piles of exfoliated and unexfoliated vermiculite were stored at OU1, next to two youth baseball fields. Children were described as having regularly played in and around these piles. Both exfoliated and unexfoliated vermiculite from waste piles around the mining operations were commonly used by local residents in their yards and gardens as a soil conditioner, and the exfoliated vermiculite was used as wall and attic insulation in many homes. Descriptions of historic operations of the mine, mill, and processing centers indicated that large amounts of dust and other emissions were released into the environment when these operations were still running.

### *3.3.1 OU1*

From the early 1960s to approximately 1990, the Export Plant was used by W. R. Grace for stockpiling and distributing vermiculite concentrate to W. R. Grace expansion plants and customers throughout the U.S. Ownership was transferred to the City of Libby in the mid-1990s. Since that time, commercial and industrial uses of OU1 reportedly included a metal scrap dealer and a larch tree gum manufacturer. Infrastructure at OU1 that supported these businesses included industrial power supply, a railroad spur, and truck scales.

### *3.3.2 OU2*

The Former Screening Plant (OU2) was utilized from 1975 to 1990 by W. R. Grace to screen mined vermiculite by size and grade. The vermiculite was transported by truck from the mine to OU2 and then sorted, with bulk stored in two sheds at the plant. The vermiculite was then loaded onto a conveyor system and transported across the Kootenai River to a conveyor unloading station (which is included within OU4). Once the vermiculite was transported across the river, it was either trucked to the local Export Plant (OU1) for processing and shipping or loaded onto rail cars for transportation and distribution to expansion plants across the United States.

The Flyway property (Subarea 2) south of the Former Screening Plant, formerly housed a pump that was used during vermiculite mining operations to convey water from the Kootenai River to the mine site. The pump house has since been abandoned. In 1999, when the EPA first visited the property, the Flyway property was found to contain several vermiculite piles that contained LA. One portion of the property had been covered with imported fill. It was suspected that vermiculite-containing material had been moved from the former Screening Plant and used as fill to level parts of the Flyway property where drainages existed.

Subarea 3 was formerly owned by W. R. Grace and it is believed that the property was used for vermiculite mining-related activities, such as the storage or staging of equipment and materials.

Subarea 4, Rainy Creek Road frontages, is located adjacent to the Former Screening Plant.

### 3.4 Initial Response

Table 3 summarizes the pre-record of decision (ROD) response actions that have been performed at OU1.

*Table 3: OU1 Pre-ROD Response Actions*

Time Period	Summary of Response Action	Entity Performing Response Action
<b>Area 1 – Former Export Plant</b>		
July 2000 - January 2001	Vermiculite and contaminated dust, soil, and debris removal and cleaning	W. R. Grace*
September – October 2001	Demolition of historic buildings and removal of contaminated soil	W. R. Grace*
October – December 2002	Demolition of historic buildings and removal of contaminated soil	W. R. Grace*
<b>Area 2 – Riverfront Park</b>		
October – November 2003	Removal of contaminated soil	EPA
July 2007	Placement of rock cover in areas of observed vermiculite	City of Libby, MT
May 2008	Site work for placement of pavilion footers	EPA
July 2008	Removal of contaminated soil	EPA

\* Completed in accordance with Unilateral Administrative Order between EPA and W. R. Grace.

Table 4 summarizes the pre-ROD response actions that have been performed at OU2.

*Table 4: OU2 Pre-ROD Response Actions*

Time Period	Summary of Response Action	Entity Performing Response Action
<b>Former Screening Plant Site (Subarea 1)</b>		
August – October 2000	Demolition of all buildings except the long shed. Removal of miscellaneous metal debris, vegetative covering, and excavation of contaminated soil. All debris and soil was stockpiled and disposed at the Former Vermiculite Mine (OU3) in 2001.	EPA
August – November 2001	Demolition of the long shed. Excavation of contaminated soil and disposal at the Former Vermiculite Mine site.	EPA
August – October 2002	Removal of decontamination pad and surrounding soil. Excavation along the banks of Rainy Creek, including removal of trees and vegetation and disposal of contaminated soil at the Former Vermiculite Mine site.	EPA
October 2002 and April 2003	Removal of vermiculite contaminated soil and granular pad during installation of potable water well.	EPA
September 2003 and August 2004	Excavation within the Highway 37 right-of-way and disposal of contaminated soil at the Former Vermiculite Mine.	EPA
July 2005 and May 2006	Removal of vermiculite contaminated soil during installation of potable water well.	EPA
<b>Flyway Property (Subarea 2)</b>		
September 2001	Excavation of asbestos contaminated soil and disposal at the Former Vermiculite Mine site.	W. R. Grace

Table 4: OU2 Pre-ROD Response Actions

Time Period	Summary of Response Action	Entity Performing Response Action
July – November 2004	Excavation of asbestos contaminated soil and disposal at the Former Vermiculite Mine.	W. R. Grace
June 2005	Excavation within the Highway 37 right-of-way adjacent to the Flyway property and disposal of contaminated soil at the Former Vermiculite Mine site.	EPA
<b>Private Property (Subarea 3)</b>		
June 2005	Excavation along Highway 37 ROW and disposal of contaminated soil at the Former Vermiculite Mine.	EPA
Rainy Creek Road Frontage (Subarea 4)		
August – October 2004	Excavation along the north and south frontages and disposal of vermiculite contaminated soil at the Former Vermiculite Mine.	EPA
August 2006	Excavation to locate and repair a damaged water line and disposal of vermiculite contaminated soil at the Former Vermiculite Mine.	EPA

### 3.5 Basis for Taking Action

#### 3.5.1 OUI

Sources of contamination described in the RI included the following:

- Surface soil (generally <6 inches below ground surface (bgs)) within the OU1 boundary was noted to contain visible vermiculite, which is an indicator for the presence of LA. Samples collected indicated LA at non-detect, trace, or less than 1% (meaning percent of asbestos fibers by count of fibers in a sample).
- Subsurface soil (generally >6 inches bgs) was noted to contain vermiculite and therefore likely contained LA. The exact location and depths of vermiculite containing soil were not fully documented or delineated.
- LA was observed in indoor air and indoor dust samples at the David Thompson Search and Rescue building.
- LA was observed in indoor air collected during activity-based sampling activities within the garage and meeting room areas of the David Thompson Search and Rescue building.
- To estimate exposure associated with inhalation of LA from outdoor ambient air, an outdoor ambient air-monitoring program was implemented from 2006 through 2008. The program involved collecting periodic samples from 15 fixed locations in and around the City of Libby for a period of two years. LA was observed in outdoor ambient air samples collected from the four monitoring stations closest to OU1.
- LA was observed in personal air samples collected during bush hogging activities within the boundary of OU1.

A human health risk assessment was completed to evaluate whether RA was appropriate. Risk evaluations indicated the exposure pathways of concern were related to the inhalation of LA in the air when the surface soil was disturbed and the potential future exposures to LA in subsurface soil. Soil was impacted by the migration of contaminants via airborne transport of contaminated dust, runoff of contaminated surface water, or mechanical transportation of source materials.

Ambient air was impacted by historic airborne transport of exposed LA contamination in soils and transport of LA from vermiculite processed at the OU.

The following receptors were identified in the pre-remedial risk assessment as the most likely to be regularly exposed to LA:

- Volunteers who staff the David Thompson Search and Rescue building. This support building is within the boundary of OU1 and is used to store equipment between responses.
- Fishing guides who launch fishing boats from the boat launch facility at OU1.
- Local residents and recreational visitors who visit OU1 for recreational purposes, either now or in the future.
- City workers who perform maintenance activities at OU1, either now or in the future.
- Potential future commercial workers (if future development is for commercial rather than recreational purposes).
- Potential future construction workers (if future development includes construction of new buildings or facilities).

Human health risks were assessed in the pre-remedial risk assessment for the following populations and exposure routes:

- People who visit or work at OU1 who will be exposed by breathing outdoor ambient air.
- People exposed to indoor air at the David Thompson Search and Rescue building.
- People exposed to air near active soil disturbances at OU1.

LA-specific toxicity factors were not available at the time when the pre-remedial risk assessment was completed, so the cancer toxicity value for asbestos was used. Table 5 summarizes the pre-remedial cancer risk estimates.

*Table 5: Pre-Remedial Cancer Risk Estimates for OU1*

<b>Media</b>	<b>Estimation of Theoretical Mean Cancer Risk</b>	<b>Estimation of Theoretical Maximum Cancer Risk</b>
Indoor air	8 in 10,000,000 (CTE) to 1 in 100,000 (RME)	4 in 1,000,000 (CTE) to 9 in 100,000 (RME)
Outdoor ambient air	4 in 10,000,000,000 to 3 in 100,000,000	6 in 1,000,000,000 to 4 in 10,000,000
Outdoor air near disturbed soil	1 in 1,000,000 to 1 in 10,000	6 in 1,000,000 to 8 in 10,000

Notes: CTE - central tendency exposure  
RME - reasonable maximum exposure  
Shading represents risks that are above EPA's acceptable risk range

The RI concluded that areas of OU1 surface soil were contaminated and LA was known to remain in subsurface soil in many locations. If contaminated subsurface soil is brought to the surface in the future through erosion or disturbance, human exposure could become a concern. These findings, coupled with risk assessment finding that disturbed soil can result in risk above EPA's acceptable range, indicated that RA was necessary.

### 3.5.2 OU2

- Exposure to LA was mitigated by removal of surface soils and the extensive cap placed across the OU during removal activities, except for LA contamination present in each subarea. The RI-identified exceptions are described below:
  - Former Screening Plant (Subarea 1): LA was present at depths greater than or equal to four feet bgs and in several isolated areas at depths less than 4 feet bgs within the former Screening Plant area north of Rainy Creek.
  - The Flyway property (Subarea 2): The majority of excavated areas in the Flyway property met EPA's soil action level of less than 1% LA. Excavation depths varied from less than 1 foot bgs to greater than 4 feet bgs.

LA concentrations less than or equal to 1% were detected in confirmatory soil samples collected at the eastern boundary of the Flyway property, within the Highway 37 right-of-way at depths up to 2 feet bgs.

Within the Highway 37 right-of-way, an isolated area remained, with concentrations of LA of greater than 1% at less than 1 foot bgs.

LA was also observed in surface soils in an isolated area in the south part of the Flyway property.
  - Private Property (Subarea 3): The majority of this subarea did not contain LA. However, one confirmation soil sample collected along the northern portion of the property contained <1% LA at a depth of 1 foot bgs.
  - Rainy Creek Road Frontages (Subarea 4): LA was present along these frontages at a depth between 1 and 2 feet bgs.
- Ambient air concentrations of LA observed during the RI indicated that this pathway is not a concern.

The affected media at OU2 was soil which had been impacted by the migration of LA via airborne transport of contaminated dust, runoff of contaminated surface water, or mechanical transportation of source materials. Air data collected at OU2 (before and during removal actions) and in other parts of the Site establish that disturbance of soils containing vermiculite and LA can lead to the release of LA fibers into air. This would increase the risk of cancer and non-cancer diseases in humans who were regularly exposed.

LA was observed in all the media sampled at OU2 (i.e. ambient air, outdoor air near disturbed soil, and soil). However, complete exposure pathways have been broken through previously completed removal actions or exposures have been found to be less than levels of concern. The possible exception was the inhalation of outdoor air pathway near disturbed soil in an isolated portion of the Highway 37 right-of-way and an isolated area in the south part of the Flyway property.

Potential human receptors at OU2 included commercial workers, tradespersons, recreational visitors, and future residents. The exposure route of concern for these receptors was inhalation of LA fibers resulting from active soil disturbance.

The RI concluded there were isolated areas of the Flyway property where the surface soil was contaminated and LA was known to remain in subsurface soil in many locations. If contaminated subsurface soil were brought to the surface in the future, through erosion or disturbance, human exposure could become a concern. These findings, coupled with the risk assessment finding that disturbed soil can result in risk above EPA's acceptable range, indicated that RA was necessary.

## 4.0 REMEDIAL ACTIONS

### 4.1 Remedy Selection

#### 4.1.1 OUI

The ROD for OU1 was signed May 10, 2010. Remedial Action Objectives (RAOs) were developed based on data collected from pre-ROD assessments and removal actions as well as the RI. The RAOs for OU1 presented below are based on anticipated future recreational, commercial, and/or light industrial use of OU1:

1. Break the exposure pathways for inhalation of LA fibers that would result in unacceptable exposure to LA.
2. Control erosion of contaminated soil by wind and water from source locations to prevent exposures and the spread of contamination to non-affected locations.
3. Implement institutional controls to prevent uses of OU1 that could pose unacceptable risks to human health or the environment or compromise the remedy.

These RAOs address LA contamination that poses cancer risks in the range between 1 in 1,000,000 and 1 in 10,000. This means there is a chance for 1 person in 1,000,000 to 1 person in 10,000 to have an excess risk of contracting cancer. Remedial goals are typically used to guide remedial action and are defined as the average concentration of a chemical or a contaminant in an exposure unit associated with a target risk level such that concentrations at or below the RG do not pose an unacceptable risk. However, since LA-specific toxicity values were not available at the time of remedy selection, quantitative, risk-based remedial goals were not developed when the OU1 ROD was signed. In lieu of remedial goals, triggers were established to guide remediation decisions. Triggers that indicated that remediation was appropriate included:

- LA soil concentrations greater than or equal to 1%, and
- visual presence of vermiculite in a soil sample

These triggers were verified by empirical evidence and site-specific standard operating procedures were developed for each.

Based on consideration of the CERCLA requirements, the detailed analysis of remedial alternatives, state comments, and all public comments, EPA's selected remedy included the following elements:

- In-Place Containment of Contaminated Soil: The majority of the remediation work at OU1 consisted of containment via construction of soil covers over areas of surface contamination. The FS anticipated that approximately 9 acres of OU1 would be covered. Soil covers were used because of ease of installation, availability of soil borrow resources, and affordability as compared to other types of covers (for example,

geosynthetic or concrete and asphalt). A visible-marker layer was placed at the bottom of the cover to denote the extent of the removal.

- Removal of Contaminated Soil for Utility Corridors: Removal and offsite disposal of contaminated materials in the proposed utility corridor areas, which were expected to encompass approximately 10% of Subareas 1 and 2.
- Partial Removal of Contaminated Soil: Removal and offsite disposal of contaminated soils, which afforded EPA the flexibility to remove other areas of contamination.
- ICs: Institutional controls (ICs) were included in the remedy to restrict use of areas containing contaminated soil, including subsurface soil covered under previous removal actions and subsurface contamination remaining below excavated areas. EPA anticipated that ICs for OU1 would include governmental and/or proprietary land use restrictions, and informational tools.
- Monitoring: Periodic inspections and five-year reviews were included to verify that remedy components provide protection of human health following completion of the remedial action.

#### 4.1.2 OU2

The ROD for OU2 was signed May 10, 2010. RAOs were developed based on data collected during pre-ROD assessments and removal actions as well as the RI. The RAOs presented below were based on anticipated future residential and/or commercial use of OU2:

1. Break the exposure pathways for inhalation of LA fibers that would result in unacceptable cancer risk or non-cancer hazard.
2. Control erosion of contaminated soil by wind and water from source locations to prevent exposures and the spread of contamination to non-affected locations.
3. Implement institutional controls to prevent uses of OU2 that could pose unacceptable risks to human health or the environment or compromise the remedy.

As discussed in Section 4.1.1 regarding OU1, due to the lack of LA-specific toxicity values, quantitative, risk-based remedial goals had not been developed for OU2 or the remainder of the Site at the time the OU2 ROD was signed. In lieu of remedial goals, triggers were established that guided remediation decisions, as described in Section 4.1.1.

Based on consideration of the CERCLA requirements, the detailed analysis of remedial alternatives, state comments, and all public comments, EPA's selected remedy included the following elements:

- Removal of Contaminated Soil within the Flyway Property Subarea: This element included removal and offsite disposal of contaminated materials for approximately 10,000 square feet of surface area, with excavation to 18 inches bgs, installation of a visible marker layer at the bottom of the excavation to denote the extent of the cleanup, and backfill of the excavation.
- In-Place Containment within the Flyway Property Subarea: Protective soil covers were included as an acceptable remedy for two small areas of the Highway 37 west embankment (approximately 5,000 square feet) because of the potential for damage to the structural integrity of Highway 37 that could result from excavation. Soil was selected as the preferred cover material because of ease of installation, availability of borrow resources,

and affordability as compared to other types of covers (for example, geosynthetic or concrete and asphalt).

- **ICs:** ICs were included in the remedy to minimize exposure and risk posed to human receptors from remaining LA in soils and to protect covers from damage. EPA anticipated that the ICs would include governmental and/or proprietary controls and informational tools such as community awareness programs (e.g., ads, handouts, contractor training, EPA Information Center, Lincoln County Asbestos Resource Program (ARP)).
- **Monitoring:** Periodic inspections and five-year reviews were included to verify that remedy components provide protection of human health following completion. .

## 4.2 Remedy Implementation

### 4.2.1 OUI

Remedial Design (RD) consisted of the Response Action Work Plan (RAWP), completed in May 2010, and Remedial Action Design Drawings, completed in September 2011.

OU1 RA began on August 9, 2011, and was completed on June 29, 2012. In most areas of OU1, remediation consisted of removing contaminated soil and installing an 18-inch thick soil cover using clean soil. Confirmation samples were collected from the floor of the excavation, with each sample representing a maximum of 2,500 square feet. Samples were analyzed for LA content. Eight of 241 confirmation samples collected indicated LA greater than or equal to 1%. In areas represented by these eight samples an additional 18 inches of soil depth was excavated. Areas that were not capped with 18 inch thick soil cover included:

- Road embankments, where 6 inches of soil was excavated;
- Roads, where paving was removed and replaced with road base; and
- Riverbank areas that were capped with riprap.

Refer to Figures 4 and 5 for remediated areas and capping treatment. Excavated soils were disposed at the Former Vermiculite Mine (OU3).

Excavated areas were backfilled with clean soils imported from outside the Libby Valley. Imported soils were tested to verify they met the requirements of the OU1 RAWP. A visible marker barrier (orange construction fence) was placed at the bottom of the excavation prior to backfill. Excavated areas were either hydroseeded or received structural base material to stabilize the surface soils from erosion. Erosion matting (35,856 square feet) was placed on embankment areas that were excavated. Drainage features, such as swales, were constructed to manage storm runoff in order to protect the remedy.

ICs currently in place at OU1 include:

- **One Call Locate Center** – Any excavation requires a call to Montana’s One Call underground facility location service (U-Dig) for Lincoln County to identify the potential for buried facilities. For an excavation within the OU1 boundary, a call to U-Dig also prompts the ARP to identify the potential for residual asbestos contamination on the property.
- **MDT Permit** – Excavation within the MDT right-of-way requires an encroachment permit. The permit includes information about the potential to encounter asbestos-contaminated soil. It also requires the permittee to take appropriate precautions and to report to EPA any planned disturbance of soil or vegetation within the permit area.

- City of Libby Permit – The City of Libby requires rental agreements and permits for the pavilions at Riverfront Park. This permit prohibits tents or canopies from being staked in the ground, which could adversely affect the remedy. City of Libby employees spot-check compliance with this requirement. In addition, the permit requires a deposit that is not returned until the City verifies damage has not occurred and the permit holders have performed necessary cleanup.

The OU1 Final Remedial Action Report was approved on July 8, 2013.

Following completion of the RA, EPA conducted a post-construction risk assessment of OU1. The Interim Post Construction Human Health Risk Assessment for OU1 used post-construction outdoor air data collected from activity-based sampling activities and indoor air data collected at the David Thompson Search and Rescue building to estimate the residual exposure and risk from inhalation of LA. Exposure scenarios used to estimate risks included city workers, recreational visitors, and search and rescue workers/volunteers at the David Thompson Search and Rescue building. Cancer risks were estimated using the inhalation unit risk value for asbestos as reported in EPA's Integrated Risk Information System (IRIS). At the time the Interim Post Construction Human Health Risk Assessment for OU1 was completed, there was no inhalation reference concentration available in IRIS for the assessment of non-cancer risks from airborne asbestos exposure. Table 6 summarizes the results of the risk assessment. As shown, estimated cancer risks are within or less than EPA's acceptable cancer risk range (1 in 1,000,000 to 1 in 10,000) for all receptors.

*Table 6: Estimated Post-Construction Risks from Exposures at OU1*

Receptor	Exposure Scenario	Cancer Risk
City Workers	Mowing	3 in 10,000,000
	Weed Trimming	0
Workers/Volunteers in David Thompson Search and Rescue building	Office	2 in 1,000,000
	Garage	1 in 1,000,000
Recreational Visitors	Recreating in the Park	2 in 1,000,000

In addition to the cancer risks summarized in Table 6, the risk assessment also calculated alternate risk estimates to address two key sources of uncertainty. First, when the risk assessment was published on December 5, 2014, EPA had published draft LA-specific toxicity values for estimating both cancer risks and non-cancer hazards. These draft toxicity values were utilized in the uncertainty assessment to provide an estimate of potential risks. Second, there is no EPA-approved method for calculating an upper-bound concentration for asbestos datasets where all samples in the dataset are non-detect (i.e., have a count of zero). The uncertainty assessment provided an estimate of potential risks based on a conservative estimate of the upper-bound concentration on the true mean. Table 7 summarizes the alternate risks calculated using the draft LA-specific toxicity values and the estimated upper-bound concentration on the true mean for datasets where all samples were non-detect.

Table 7: Alternate Estimated Post-Construction Risks from Exposures at OU1

Receptor	Scenario	Cancer Risk	Non-Cancer Hazard Quotient
City Workers	Mowing	2 in 10,000,000	0.08
	Weed Trimming	< 1 in 1,000,000	< 0.4
Search and Rescue Workers/Volunteers	Office	2 in 1,000,000	0.7
	Garage	1 in 1,000,000	0.5
Recreational Visitors	Recreating in the Park	1 in 1,000,000	0.4

The alternate risk estimates indicated that risks calculated using draft LA-specific toxicity values and upper-bound concentrations, both cancer and non-cancer risk estimates, are within or less than EPA’s acceptable risk range.

On December 8, 2014, final toxicity values were published and risks for OU1 were estimated in the Draft Site-wide Human Health Risk Assessment for the Libby Asbestos Superfund Site. Using the final toxicity values, non-cancer risks were estimated to be lower and cancer risks were unchanged.

#### 4.2.2 OU2

OU2 remedial design consisted of the response action work plan, completed in May 2010 and evaluation of the seasonally flooded portion of the Flyway property investigated during the RI. Evaluation of the seasonally flooded portion of the Flyway property was completed in July 2010 and consisted of visual inspection for vermiculite, and collection of samples from activity-based sampling activities, and analysis of the samples for LA. Based on this evaluation, it was concluded that remedial measures were not required in this portion of the Flyway property.

OU2 remedial action began on September 27, 2010, and was completed on November 3, 2010. Refer to Figure 6 for remediated areas and the location of the seasonally flooded portion of the Flyway property. Remedial action consisted of excavation and backfill in an isolated portion of the Highway 37 right-of-way (shown in Figure 6 as Areas A, B, C, D, and E) and the area surrounding a sample in the Flyway property (shown in Figure 6 as Area F). Excavation was completed to 12 inches bgs at Area F, while the excavation depth was limited to 6 inches bgs at Areas A through E, to minimize the potential for impact on the adjacent highway. Four confirmation soil samples were collected from the bottom of excavation Area F. All of these samples were non-detect for LA. One confirmation soil sample was collected from each of the areas in the right-of-way. Samples from Areas D and E contained less than 1% LA, which means that residual contamination will remain in these areas below the cap. All other right-of-way areas were non-detect for LA. Excavated soils were disposed at the Former Vermiculite Mine in OU3.

Excavated areas were backfilled with clean soils imported from outside of the Libby Valley. Imported soils were tested to verify they met the requirements of the OU2 remedial action work plan. Following backfill, excavated areas were hydroseeded.

ICs currently in-place at OU2 include:

- One Call Locate Center – Any excavation requires a call to Montana’s One Call underground facility location service (U-Dig) for Lincoln County to identify the potential for buried facilities. For an excavation within OU2 boundaries, a call to U-Dig also prompts ARP to identify the potential for residual asbestos contamination on the property.
- MDT Permit – Excavation within the MDT right-of-way requires a permit that includes information about the potential to encounter asbestos contaminated soil.
- Montana Department of Environmental Quality (MDEQ) Restrictive Covenant on Flyway Property – Among other things, the covenant requires written approval from EPA and MDEQ prior to any disturbance of soil or other materials on the Flyway property.

The OU2 final remedial action report was approved on May 15, 2012. EPA declared OU2 operational and functional on August 1, 2013.

Following completion of the RA, EPA conducted a post-construction risk assessment of OU2. The risk assessment used post-construction outdoor air data collected from activity-based sampling to estimate the residual exposure and risk from inhalation of LA. Specifically, results were used to evaluate potential exposures to MDT workers that mow the right-of-way in the Flyway property and individuals that may recreate or trespass (intentionally or inadvertently) along the bank of the Kootenai River in the Flyway property. For both exposure scenarios, all air samples were non-detect for LA. Hence, the resulting cancer and non-cancer risks were less than a level of potential concern for both MDT workers and recreational visitors and trespassers.

The MDEQ is considering the collection of additional post-construction activity-based sampling data from a residential property within OU2.

#### 4.3 Operation and Maintenance

##### 4.3.1 OUI

The Operation and Maintenance (O&M) Plan for OU1 was approved on July 15, 2013. It lists the following O&M activities:

- OU1 Site Inspections. Conduct routine non-intrusive visual site inspections at least annually, to ensure integrity of the covers and backfilled areas.
- Cover Maintenance. Repair damage to protective covers and backfilled areas observed during OU2 site inspections to eliminate exposure of underlying contamination.
- IC Evaluation and Updates. Evaluate ICs at least annually and update, if necessary, to ensure protectiveness.
- Reporting. Prepare annual reports that summarize O&M activities. Routine reporting also involves regular review and updates, as necessary, to the O&M health and safety plan as described in Section 2.2 and as-built drawings.

Table 8 lists the estimated OU1 O&M costs.

Table 8: Estimated OU1 Operation and Maintenance Costs

O&M Component	Frequency	Description	Cost
Cover maintenance (minor breaches)	Annual	Breaches that can be repaired without additional excavation of contaminated soils are considered as minor breaches.	\$15,000
Routine site inspection	Annual	Includes annual site inspection to inspect the integrity of all the components of the remedy put in place. It is assumed that these O&M costs will be incurred annually	\$2,000
Evaluating and updating institutional controls	Annual	The cost includes annual evaluation and update of the implemented institutional controls at OU1.	\$2,000
Cover maintenance (major breaches)	Once Every Five Years	Includes periodic costs for repairing major breaches to the protective cover. It may include additional excavation of contaminated materials to secure the disturbed areas.	\$21,000

The first inspection of OU1 was completed by EPA on September 25, 2014. The following are observations noted in the inspection report:

- Riverfront Park is irrigated and is covered by a lush lawn; non-irrigated OU1 areas are sparsely vegetated.
- Vegetation appears to be well established along the Highway 37 embankment with only minimal erosion. There is no damage to the soil cover by animals.
- The boat ramp and the riprap along the Kootenai River appear to be intact and functioning.
- There are a few observable ruts or depressions in the soil cover on the edges of the parking lot and road where vehicles cut the corner and left tracks.
- There are no changes in land use.

The report recommended that the City of Libby inspect ruts in the soil cover on the edges of the parking lot and road areas, and conduct erosion control as necessary.

Table 9 provides estimated costs for OU1 O&M for this review period. O&M included inspection and development of the inspection report.

Table 9: OU1 Operation and Maintenance Costs for Review Period

Dates	Activity	Total Estimated Cost <sup>1</sup>
September 2014 to December 2014	Inspection and Reporting	\$1,000

<sup>1</sup>Rounded to nearest \$1,000

#### 4.3.2 OU2

The O&M Plan for OU2 was approved on July 15, 2013. It lists the following routine O&M activities:

- OU2 Site Inspections. Conduct routine non-intrusive visual site inspections at least annually, to ensure integrity of the covers and backfilled areas.
- Cover Maintenance. Repair damage to protective covers and backfilled areas observed during OU2 site inspections to eliminate exposure of underlying contamination.

- IC Evaluation and Updates. Evaluate ICs at least annually and update, if necessary, to ensure protectiveness.
- Reporting. Prepare annual reports that summarize O&M activities. Routine reporting also involves regular review and updates, as necessary, to the O&M HASP as described in Section 2.2 and as-built drawings.

Table 10 lists the estimated OU2 O&M costs.

*Table 10: Estimated OU2 Operation and Maintenance Costs*

O&M Component	Frequency	Description	Cost
Cover maintenance (minor breaches)	Annual	Breaches that can be repaired without additional excavation of contaminated soils are considered as minor breaches.	\$8,000
Routine site inspection	Annual	Includes annual site inspection to inspect the integrity of all the components of the remedy put in-place. It is assumed that these O&M costs will be incurred annually.	\$2,000
Evaluating and updating institutional	Annual	The cost includes annual evaluation and update of the implemented institutional controls at OU2.	\$2,000
Cover maintenance (major breaches)	Once every five years	Includes periodic costs for repairing major breaches to the protective cover. It may include additional excavation of contaminated materials to secure the disturbed areas.	\$21,000

The first inspection of OU2 was completed by EPA on October 24, 2013. During the O&M inspection, it was found that some areas of the Flyway property near the river had eroded. EPA contacted W.R. Grace about the discovery and they performed erosion repairs. Backfill material mixed with rock was used to restore the eroded area. Hay bales and coconut matting were employed for erosion protection. The backfill was covered with straw and seeded to promote vegetation growth and prevent further erosion. No other issues were noted and no changes to the ICs, future inspections, or maintenance were recommended.

A second inspection of OU2 was completed by EPA on September 25, 2014. It was noted in the inspection report that after snowmelt in 2014, heavy drainage caused erosion near the Highway 37 right-of-way. The erosion was repaired in the spring. During the inspection, no further erosion was discovered in this area. For the rest of OU2, no erosion was noted. There have been no changes in land use since the first O&M inspection.

Table 11 provides estimated costs for OU2 O&M for this review period.

*Table 11: OU2 Operation and Maintenance Costs for Review Period*

Dates	Activity	Total Estimated Cost <sup>1</sup>
October 2013 to March 2014	Inspection and reporting	\$1,000
Fall 2013	Erosion repairs	Unknown <sup>2</sup>
Spring 2014	Erosion repairs	Unknown <sup>2</sup>
September 2014 to December 2014	Inspection and reporting	\$1,000

<sup>1</sup>Rounded to nearest \$1,000

<sup>2</sup>Completed by W.R. Grace; cost unknown

## 5.0 PROGRESS SINCE THE LAST REVIEW

This is the first five-year review.

## 6.0 FIVE-YEAR REVIEW PROCESS

### 6.1 Administrative Components

The five-year review was led by Dania Zinner, EPA Remedial Project Manager for the Site. The following team members participated in the review:

- Rebecca Thomas, EPA
- David Berry, EPA
- Lorraine Ross, EPA
- Mike Cirian, EPA
- Jennifer Lane, EPA
- Jeremy Ayala, U.S. Army Corps of Engineers (USACE)
- Lisa Dewitt, MDEQ
- Joe Shields, HDR

The five-year review consisted of the following activities: a review of relevant documents, community involvement interviews, data review, inspection, and five-year review report development and review.

### 6.2 Community Involvement

Twelve interviews were conducted with members of the community. Table 12 summarizes the interviews conducted.

*Table 12: Summary of 5-Year Review Community Involvement Interviews*

Name	Title	Organization	Date
Damon Repine and Nic Pisciotta	None provided	CDM Smith	March 12, 2014
Jim Smith	Police Chief	Libby Police Department	March 12, 2014
Peggy Williams	Council Woman	Libby City Council	March 12, 2014
Jim Hammons and Corky Pape	City Administrator / Street Supervisor	City of Libby	March 11, 2014
Rick Ball, Bob Parker, Russ Barnes, Gary Huntsberger, Ed Levert, Paul Rumelhart, and Kirby Maki	Committee Members	Healthy Communities Initiative Group	March 11, 2014
Nick Raines and Jennifer McCully	None provided	Lincoln County Asbestos Resource Program	March 12, 2014
Mike Chapman	Property Owner's Representative	W. R. Grace	March 12, 2014
Mel Parker	Property Owner	None	March 11, 2014
Kevin Lindgren	President	Search and Rescue	March 12, 2014
Trent Oelberg	Director	Libby Revitalization Inc.	March 11, 2014
Jeremy Ayala and Chuck Jackson	None provided	USACE / Remediation Contractor	March 12, 2014
Vicky Lawrence	None provided	Tree Board	March 12, 2014

Overall, the impressions of the remedies put into place at OU1 and OU2 are positive. The community is much more familiar with the OU1 remedy since it involved the creation of a public park in the downtown area. Nearly all interviewees felt that EPA was successful with informing the community of the activities completed at OU1 and OU2. Refer to Appendix A for interview documentation.

### **6.3 Document Review**

The five-year review included a review of relevant documents. The relevant documents that were reviewed are listed in Appendix B to this report.

RAOs and Applicable or Relevant and Appropriate Requirements (ARARs) for OU1 and OU2 are identified in the Final Feasibility Study Report. For each of the OUs, development of cleanup levels through risk assessment was not possible because LA-specific toxicity values were not available at the time of the ROD and RA. The standard used to guide the RA was capping or removal where vermiculite was visually detected and where the concentration of LA in soil was greater than or equal to 1%.

The Site-Wide Baseline Ecological Risk Assessment for Exposure to Asbestos Part 2 (Non-OU3) (BERA), which includes all OUs except OU3, was completed in January 2015. The BERA concluded that at Site OUs (except OU3), the land has largely been developed for human use and habitat is not optimal to support terrestrial receptors. For this reason, the Working Draft BERA did not evaluate risks to terrestrial receptors and focused on aquatic and semi-aquatic receptors. Both OU1 and OU2 lands do not contain habitat to support these receptors.

ARARs for OU4-OU8 were published in a 2015 feasibility study report. These ARARs were reviewed, as well as ARARs developed for OU1 and OU2.

### **6.4 Site Inspection**

#### *6.4.1 OUI*

The OU1 inspection was conducted by Dania Zinner, EPA; Mike Cirian, EPA; Jeremy Ayala, USACE; and Lisa Dewitt, MDEQ on September 25, 2014. The inspection was completed to fulfill the requirements of the yearly O&M inspection and the five-year review site inspection.

The purpose of the five-year review site inspection is to provide information about a site's status and to visually confirm and document the conditions of the remedy, the site, and the surrounding area. At OU1, the remedy consists of a protective cover, which contains the waste and prevents exposure to LA fibers below the cover. To accommodate the terrain and multiple uses of the property, several types of protective cover are employed at OU1, as shown in Figure 4 and detailed in Figure 5.

Observations from the OU1 inspection are listed in Section IV Remedial Actions, in the subsection titled Operation and Maintenance. Minor erosion and rutting was observed that did not expose residual contamination. Refer to Appendix C for inspection photos. Based on the OU1 inspection, the constructed remedy appears to be functioning as designed.

ICs currently in place at OU1 are described in Section IV Remedial Actions of this review, in the subsection titled Remedy Implementation. Current ICs include Montana One Call utility locate service, otherwise known as U-Dig, MDT encroachment permits, which are required for excavation within the MDT right-of-way, and City of Libby Permits, required to prevent staking

of tents and canopies in Riverfront Park. It is noted that U-Dig calls and information requests were transitioned to ARP in 2014. In 2014, IC activities included:

- Two U-Dig/ARP calls concerning OU1 in 2014. One call was for assistance with excavation to erect street light poles in Riverfront Park. This work resulted in the generation of several bags of potentially LA-contaminated material, which were disposed of at OU3. The second call was for construction of a parking lot near Veteran's Memorial in Riverfront Park. The construction did not result in disturbance of waste material.
- No MDT encroachment permits were sought in 2014.
- The City of Libby issued 21 permits to use the pavilions at Riverfront Park in 2014.

#### 6.4.2 OU2

The OU2 inspection was conducted by Dania Zinner, EPA; Mike Cirian, EPA; Jeremy Ayala, USACE; and Lisa Dewitt, MDEQ on September 25, 2014. The inspection was completed to fulfill the requirements of the yearly O&M inspection and the five-year review site inspection.

At OU2, the remedy consists of a protective cover, which contains the waste and prevents exposure to LA fibers below the cover. To accommodate the terrain and multiple uses of the property, several types of protective cover are employed at OU2, as shown in Figure 6.

Observations from the OU2 inspection are listed in Section IV Remedial Actions, in the subsection titled Operation and Maintenance. No deficiencies were noted. Refer to Appendix D for Inspection Photos. Based on the inspection, the constructed remedy appears to be functioning as designed.

ICs currently in place at OU2 are described in Section IV Remedial Actions of this review, in the subsection titled Remedy Implementation. Current ICs include Montana One Call utility locate service, which has transitioned to ARP; MDT encroachment permits, which are required for excavation within the MDT right-of-way; and the recorded MDEQ Restrictive Covenant for the Flyway property. Since remedy implementation, IC activities have included:

- One U-Dig/ARP call concerning OU2. The call was made by a concerned citizen and did not result in disturbance of the remedy.
- No MDT encroachment permits have been issued.
- The MDEQ restrictive covenant for the Flyway property was recorded with Lincoln County in July 2014.

## 7.0 TECHNICAL ASSESSMENT

### 7.1 Question A: *Is the remedy functioning as intended by the decision documents?*

#### OU1

Yes. Based on the results of the site inspection and review of the documents, the remedy is functioning as intended by the ROD. Constructed caps and erosion controls are achieving the RAOs by preventing exposure to LA-contaminated soils through direct contact or inhalation of airborne LA.

In the OU1 ROD, EPA anticipated that ICs for OU1 would include governmental and/or proprietary land use restrictions, and informational devices. The City of Libby permit

requirements for Riverfront Park and MDT encroachment permits are governmental ICs. The Montana One Call utility locate service operated by ARP provides information to protect the remedy and is an information device. In addition, other information tools including fact sheets and contractor training classes, have been developed and implemented by EPA and local governments. MDEQ may work with the City of Libby to place an environmental covenant on the Riverfront Park property. Based on review of the ICs and documentation of IC activities, the intent of the ROD has been met.

Land use at OU1 has not changed significantly since remedy selection. Area 1, which was described in the ROD as unused except for the David Thompson Search and Rescue building, is now largely used as a park and a memorial with a statue has been constructed on the west end (Veterans Memorial). There is no information to suggest that land use will change in the near future.

#### *OU2*

Yes. Based on the results of the inspection and review of the documents, the remedy is functioning as intended by the ROD. Constructed caps and erosion controls are achieving the RAOs by preventing exposure to LA-contaminated soils through direct contact or inhalation of airborne LA.

In the OU2 ROD, EPA anticipated that ICs for OU2 would include governmental, proprietary land use restrictions, and informational devices. MDT encroachment permits are governmental ICs. The Montana One Call utility locate service operated by ARP provides information to protect the remedy and is an information tool. The MDEQ restrictive covenant for the Flyway property is a proprietary land use restriction. In addition, other information devices including fact sheets and contractor training classes have been developed and implemented by EPA and local governments. Based on review of the ICs and documentation of IC activities, the intent of the ROD has been met.

Land use at OU2 has not changed since remedy implementation.

### **7.2 Question B: *Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid?***

#### *OU1 and OU2*

No. At the time of the remedy selection, a scientifically valid reference concentration necessary to quantify the non-cancer hazard for inhalation exposure to LA was not available. Therefore, the risk assessment did not include an evaluation of non-cancer LA hazard. In addition, the toxicity value (inhalation unit risk) used to develop cancer risks used for remedy selection was for asbestos, not specifically LA. In December 2014, EPA finalized a reference concentration for inhalation exposure to LA and an inhalation unit risk for LA. Therefore, better, contaminant-specific toxicity data is now available to develop estimates of human health risk compared to what was used at the time of remedy selection.

Concurrently with the finalization of the LA toxicity values, the EPA published the *Draft Site-wide Human Health Risk Assessment for the Libby Asbestos Superfund Site* (Draft Site-wide HHRA). Included in this document were post construction HHRAs for OU1 and OU2 that utilized the LA-specific toxicity values and post construction air quality data. This fulfilled requirements of both RODs to conduct quantitative, site-wide HHRAs at

each OU after construction is complete and toxicity values are available to confirm effectiveness of the remedy.

Tables 13 and 14 summarize the draft post construction risks based on the reasonable maximum exposure (RME) at OU1 and OU2, respectively.

*Table 13: OU1 Draft Risk Estimates Based on RME Exposure Parameters*

Receptor	Exposure Scenario	Cancer Risk	Non-cancer Hazard Quotient
Outdoor worker	Mowing	2 in 10,000,000	0.02
	Weed trimming	0	0
Indoor worker	Office	2 in 1,000,000	0.1
	Garage	1 in 1,000,000	0.09

*Table 14: OU2 Draft Risk Estimates Based on RME Exposure Parameters*

Receptor	Exposure Scenario	Cancer Risk	Non-cancer Hazard Quotient
Outdoor worker	Mowing Highway 37 right-of-way	0	0
Indoor worker	Hiking along Kootenai River	0	0

At OU1, the estimated RME cancer risks for outdoor workers are less than 1 in 1,000,000 and non-cancer Hazard Quotients (HQs) are at or less than 0.1 for both worker exposure scenarios based on post-construction conditions. It is assumed that potential risks to recreational visitors at the park would be lower than those calculated for outdoor workers. For indoor workers, estimated RME cancer risks are less than 1 in 100,000 and non-cancer HQs are at or less than 0.1 for both the office and garage under post- construction conditions.

At OU2, post-construction air sample results did not detect LA, thus cancer and non-cancer risks were calculated to be zero.

**7.3 Question C: *Has other information come to light that could call into question the protectiveness of the remedy?***

There is no other information that calls into question the protectiveness of the remedy at OU1 or OU2.

**7.4 Technical Assessment Summary**

Based on inspection and document review, both OU1 and OU2 are functioning as intended by the respective RODs. ICs are in place at each OUT that protect the remedies, which meets the requirements of the decision documents.

EPA recently published toxicity values for LA. Draft post-construction human health risks for OU1 and OU2 were calculated using these values. Non-cancer risks at both OUs are less than a level of concern for the potential exposure scenarios identified. Cancer risks are within EPA’s acceptable cancer risk range (1 in 1,000,000 to 1 in 10,000) or lower.

## **8.0 ISSUES**

Based on the information collected during the first five-year review, no issues were identified which prevent the remedy from being protective, now or in the future.

## **9.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS**

### **9.1 Other Considerations**

Since no issues were identified, there are no specific recommendations and follow-up actions identified from this review. Findings of the review that are noteworthy include:

- Observable ruts or depressions in the soil cover on the edges of the parking lot and road where vehicles had cut the corner and left tracks were noted during inspection of OU1. It is recommended that the City of Libby, which is responsible for OU1 O&M, inspect ruts in the soil cover on the edges of the parking lot and road areas and conduct erosion control as necessary.
- The MDEQ may work with the City of Libby to record an environmental covenant on Riverfront Park (OU1). Recording this environmental covenant would enhance OU1 protectiveness.
- The MDEQ is considering the collection of additional post-construction activity-based sampling data from a residential property within OU2.
- Determine if the final Site-wide HHRA will indicate further action at OU1 and OU2.

## **10.0 PROTECTIVENESS STATEMENTS**

The remedy at OU1 is protective of human health and the environment; exposure pathways that could result in unacceptable risks are being controlled.

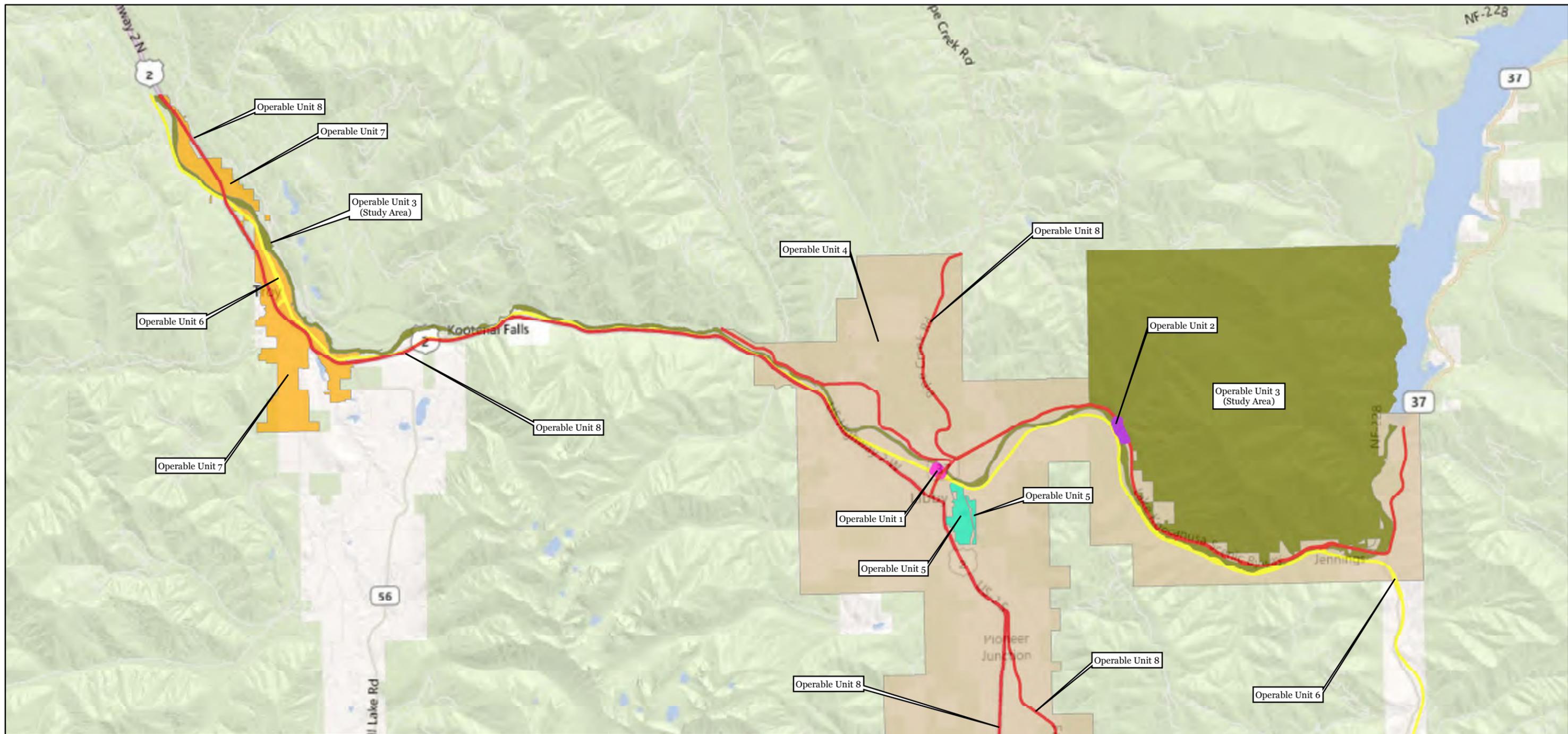
The remedy at OU2 is protective of human health and the environment; exposure pathways that could result in unacceptable risks are being controlled.

## **11.0 NEXT REVIEW**

Wherever contamination may be left on the Site above a level of concern, ongoing five-year reviews will be required in accordance with CERCLA § 121 (c). The next five-year review for the Site will be performed by June 2020, five years from the date of this review.

## Figures Referenced in Report

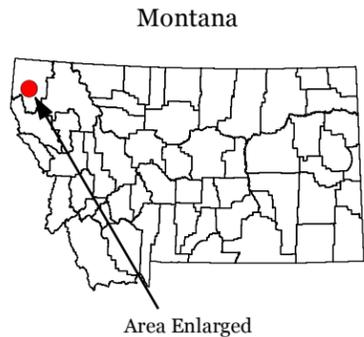
<b>Title</b>	<b>Report Reference</b>
Figure 1: Libby Asbestos NPL Site Operable Units .....	Section 1.4, Section 3.1
Figure 2: Operable Unit 1 Site Map.....	Section 3.1
Figure 3: Operable Unit 2 Site Map.....	Section 3.1
Figure 4: Restoration As-Built for OU1 .....	Section 6.4.1
Figure 5: Restoration As-Built Details for OU1 .....	Section 6.4.1
Figure 6: Location of Protective Covers and Remedy Components at OU2 .....	Section 4.2.2, Section 6.4.2



**Figure 1 - Libby Asbestos NPL Site**  
**Operable Units**  
*Lincoln County, Montana*

- |   |      |   |      |   |      |
|---|------|---|------|---|------|
|  | OU 1 |  | OU 4 |  | OU 7 |
|  | OU 2 |  | OU 5 |  | OU 8 |
|  | OU 3 |  | OU 6 |   |      |

0 1 2 Miles  
 0 1 2 Kilometers



\*ICs do not exist for this site.

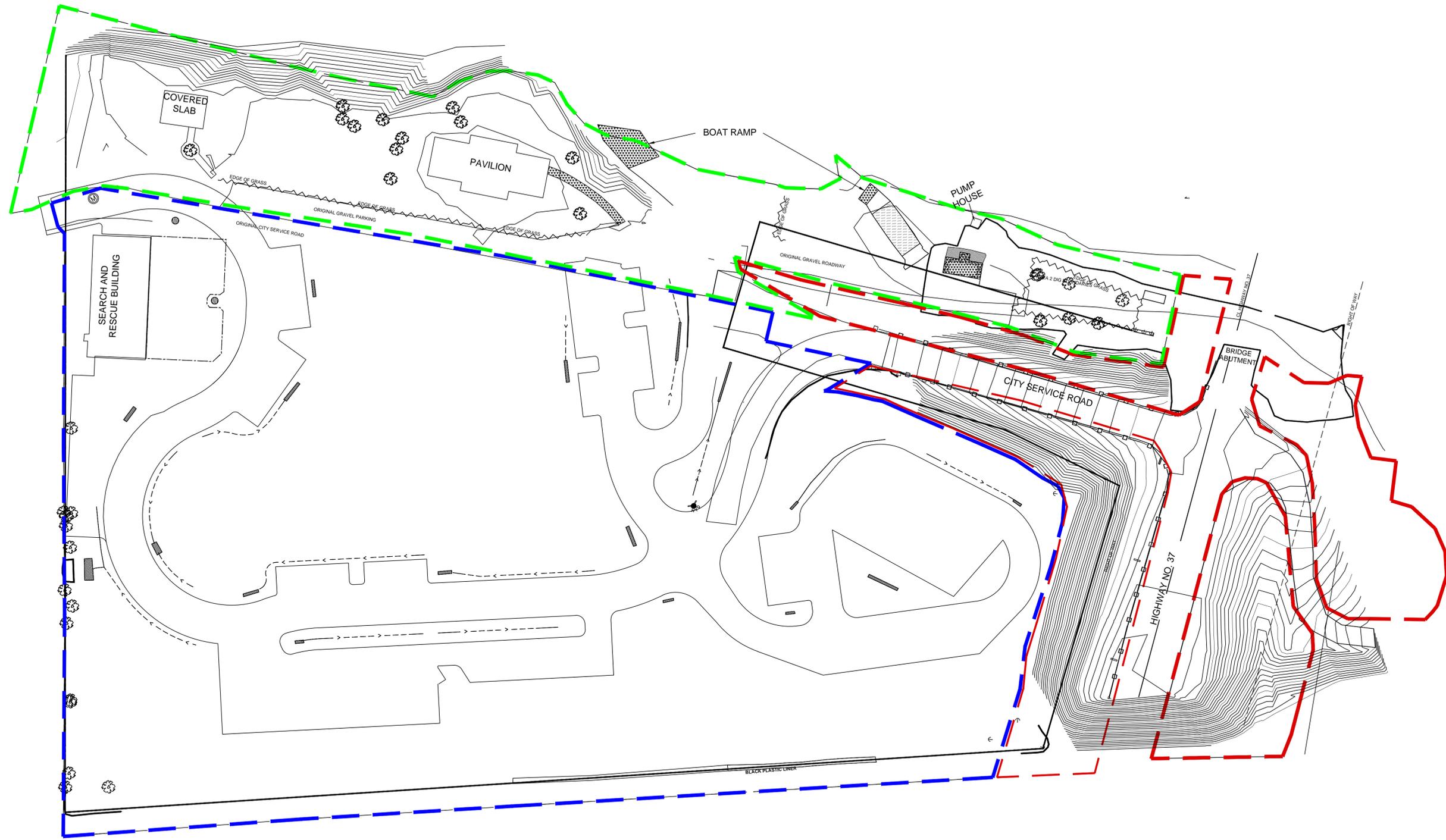
**Map Date:** April 30, 2012

**Map Projection:** UTM, Meters, 11 North, NAD83

**Data Sources:** Boundaries - U.S. EPA Region 8 (2012);

Base - Bing (2012).

\*Boundaries are based on the nature and extent of contamination and are subject to change.

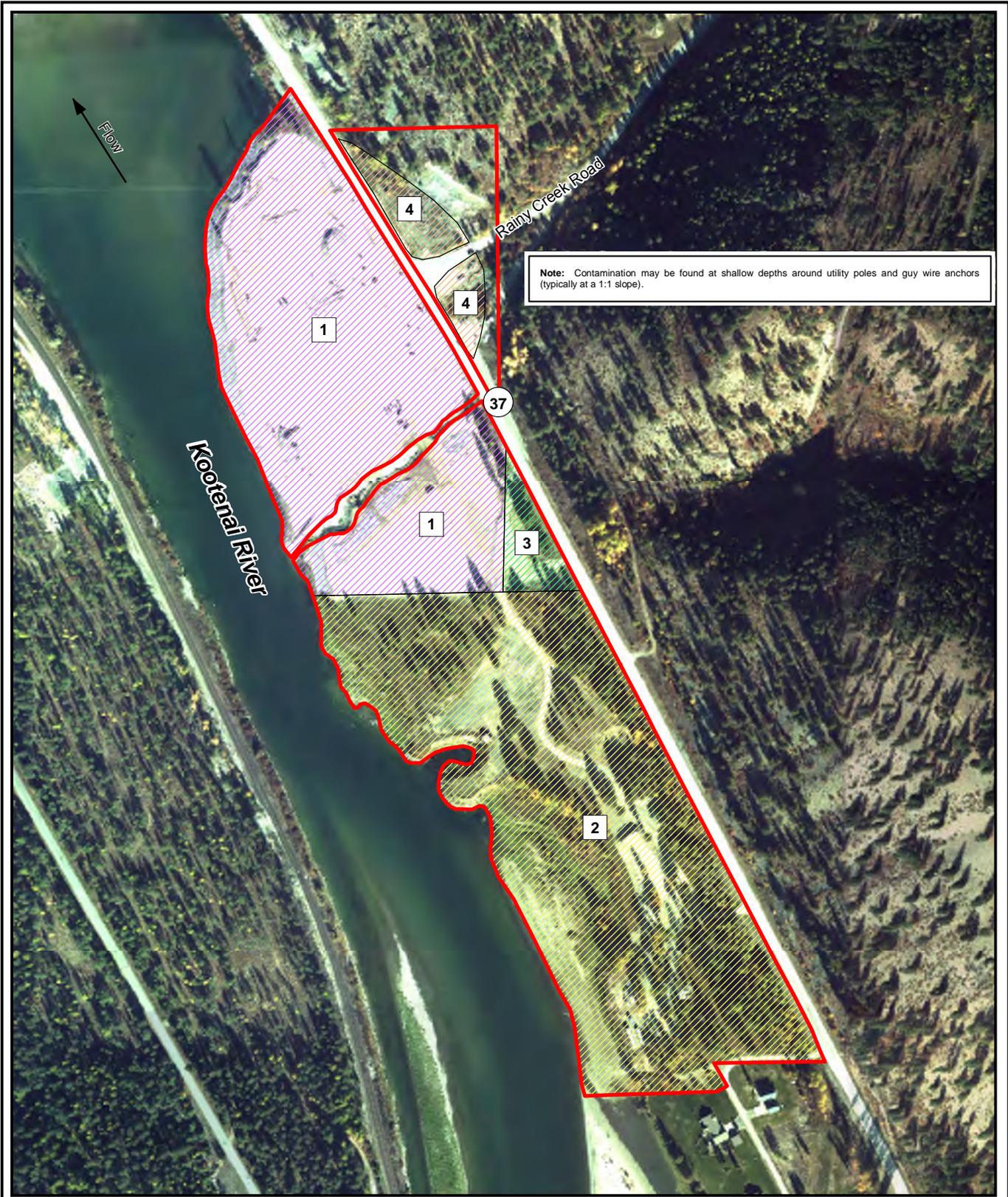


- LEGEND**
- - - AREA 1 - FORMER EXPORT PLANT
  - - - AREA 2 - RIVERFRONT PARK
  - - - AREA 3 - EMBANKMENTS

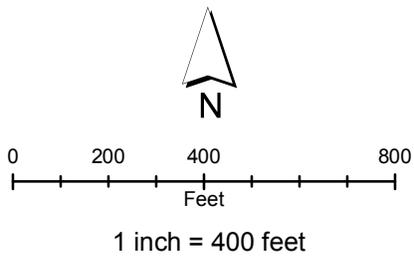


OU1 SITE MAP  
 FIGURE 2  
 LIBBY ASBESTOS SUPER FUND SITE  
 LINCOLN COUNTY, MONTANA





Note: Contamination may be found at shallow depths around utility poles and guy wire anchors (typically at a 1:1 slope).

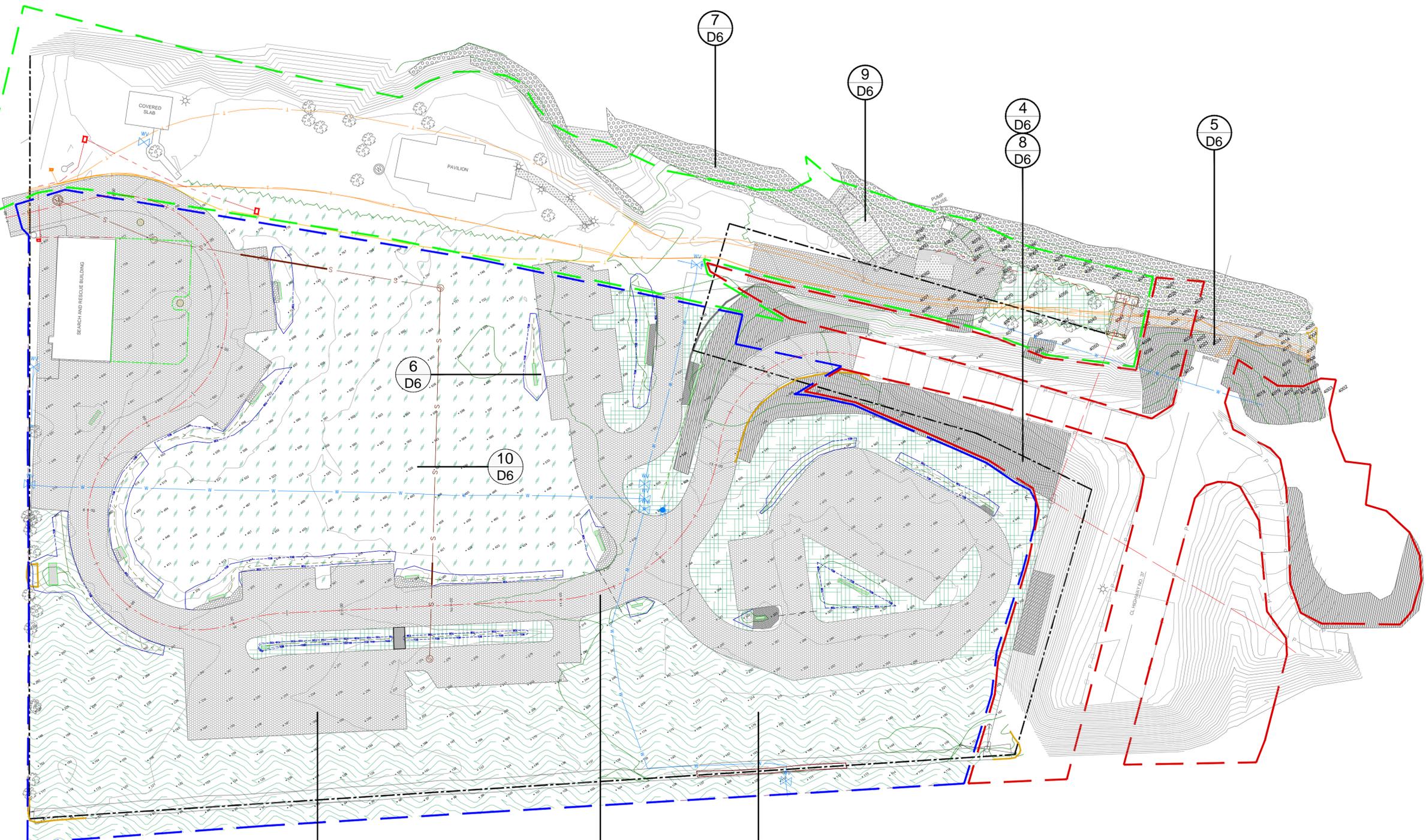


**Legend**

- OU2 Boundary
- Subarea 1 - Former Screening Plant
- Subarea 2 - Flyway
- Subarea 3 - Private Property
- Subarea 4 - Rainy Creek Road Frontages

**Figure 3**  
**OU2 Site Map**  
 Libby Asbestos Superfund Site  
 Lincoln County, Montana



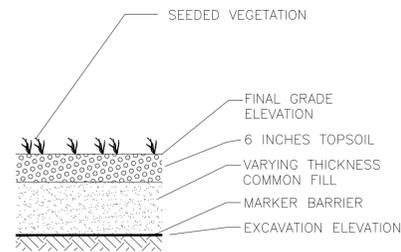


**LEGEND**

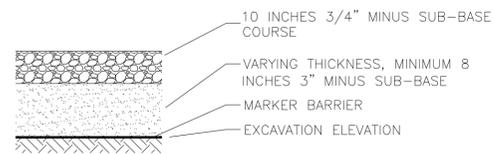
	EXISTING CONCRETE		DAVIS CONTROL POINT
	NEW CONCRETE		COMPUTED BOUNDARY
	DRAIN ROCK TRENCH		MISCELLANEOUS TREES
	ROCK TRENCH GRAVEL		UTILITY POLES
	RIP RAP		CHAIN LINK FENCE
	GRAVEL ROAD		LIGHT POST
	EROSION MAT		RAIL ROAD TIE POSTS
	ARMOR FLEX		WATER MAIN
	HYDROSEED KOOTENAI USFS MIX		MONITOR WELL
	HYDROSEED PLAYGROUND MIX		SEWER MANHOLE
	HYDROSEED WILDFLOWER MIX		FIRE HYDRANT
	AREA 1 - FORMER EXPORT PLANT		IRRIGATION VALVE
	AREA 2 - RIVERFRONT PARK		STRAW WATTLES
	AREA 3 - EMBANKMENTS		GUARDRAIL
	MUNICIPAL WATER MAIN		GUY WIRE
	NEW MUNICIPAL SANITARY SEWER		SEWER DRAIN
	NEW TELEPHONE AND CABLE LINES		UTILITY VAULT
	BURIED TELEPHONE AND CABLE LINES		TELEPHONE PEDESTAL
	EDGE OF GRASS		PIPE CHASE
	EDGE OF PAVEMENT		TIMBER BOX
	OVERHEAD UTILITY LINE		AREA WITH NO MARKER BARRIER
	BURIED POWER LINE		HIGH DENSITY POLYETHYLENE
	FOAM INSULATION ABOVE SEWER MAIN		
	PROPERTY BOUNDARY		



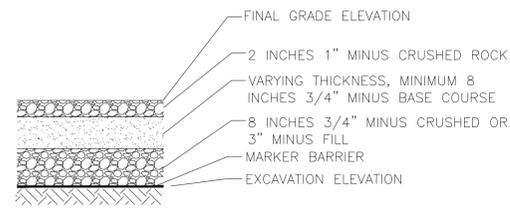
US ARMY CORPS OF ENGINEERS OMAHA DISTRICT RAPID RESPONSE PROGRAM	
<b>Figure 4</b> US EPA Region VIII Denver, Colorado LIBBY ASBESTOS SITE LIBBY, MONTANA RESTORATION AS-BUILT FOR OU1	
SURVEYED BY/DATE	E.I.D. LLC 08/27/12
DRAWN BY/DATE	S. MARTIN 10/02/12
CHECKED BY/DATE	S. FELTON 10/02/12
SUBMITTED BY/DATE	S. FELTON 10/02/12
SCALE:	AS NOTED
DATE:	10/02/12
FILE LOCATION:	.. \2012 PROPERTIES \ OU1 \ CAD \ AS-BUILT.DWG
SHEET #:	
PLOT SCALE:	1 : 1
DRAWING TYPE:	AS-BUILT



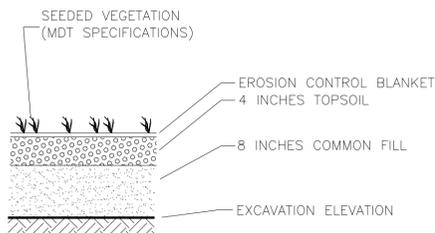
SEED RESTORATION SECTION (TYPICAL)  
SCALE = NTS 1



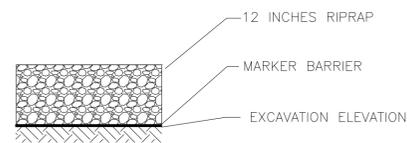
CITY SERVICE ROAD SECTION (TYPICAL)  
SCALE = NTS 2



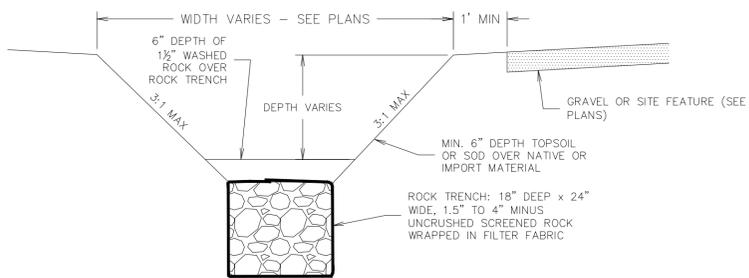
PARKING AREA SECTION (TYPICAL)  
SCALE = NTS 3



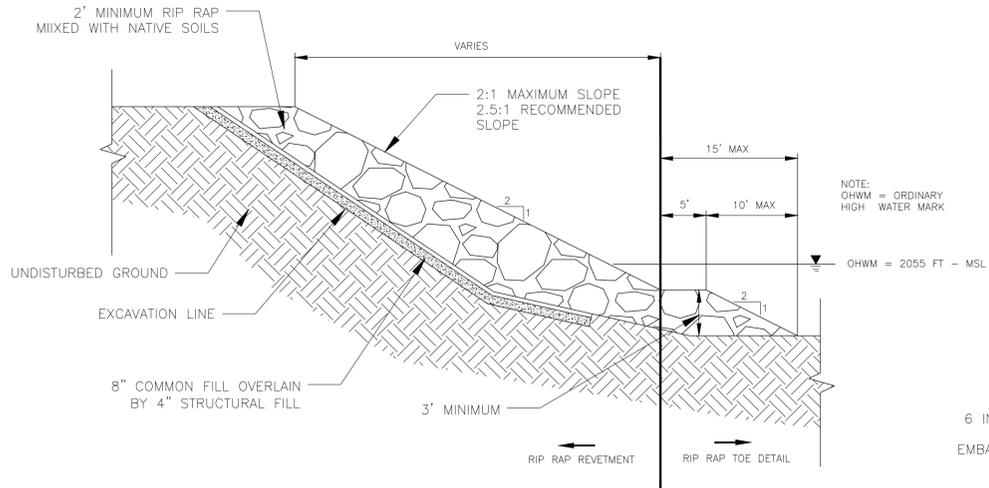
EMBANKMENT RESTORATION SECTION (TYPICAL)  
SCALE = NTS 4



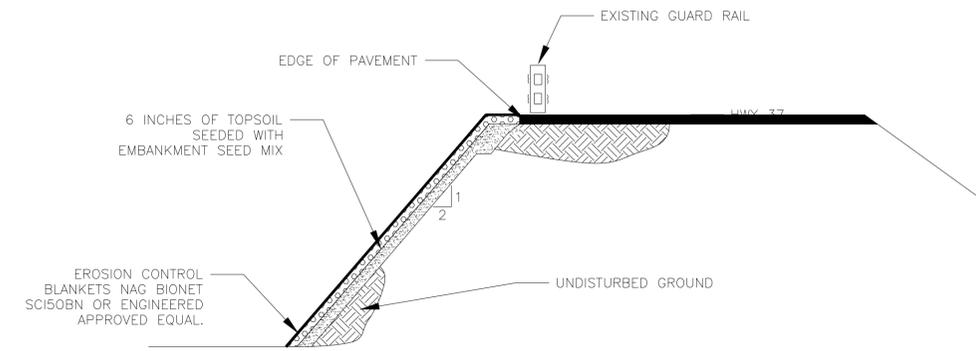
UNDER BRIDGE RESTORATION SECTION (TYPICAL)  
SCALE = NTS 5



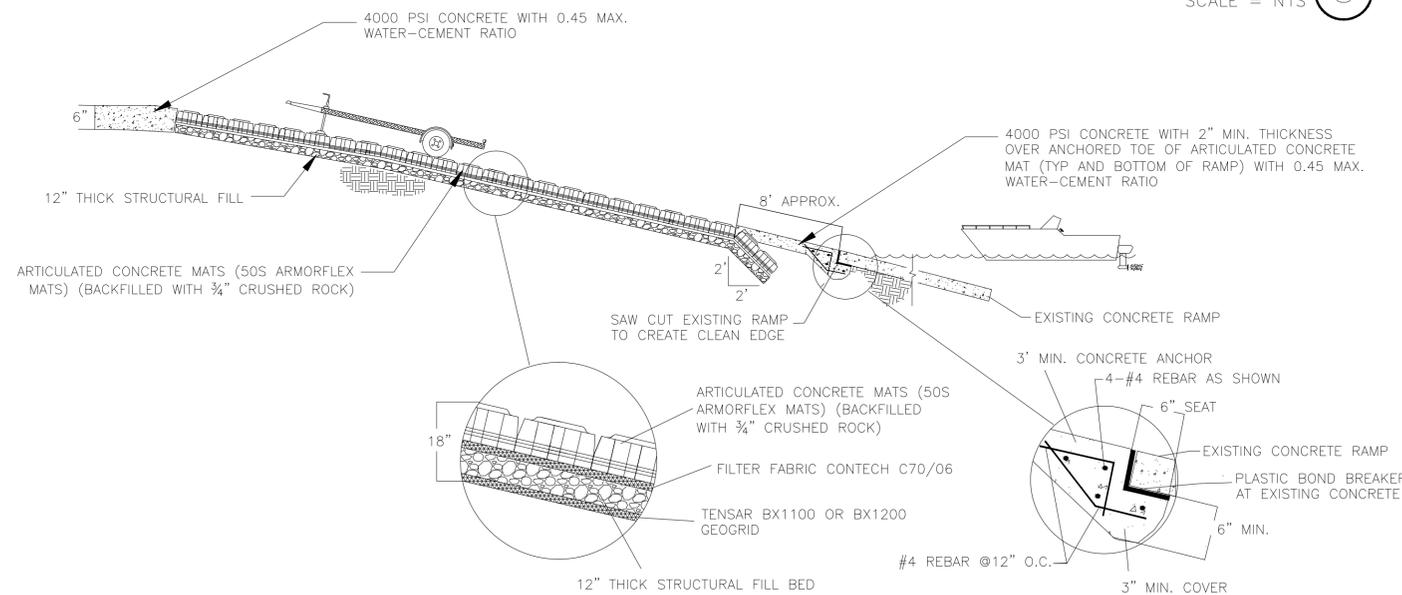
ROCK TRENCH (TYPICAL)  
SCALE = NTS 6



RIP RAP (TYPICAL)  
SCALE = NTS 7

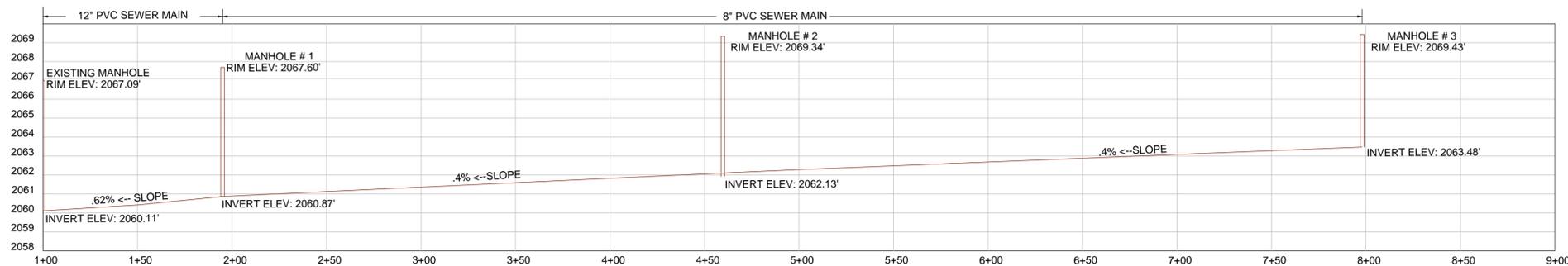


EMBANKMENT RESTORATION (TYPICAL)  
SCALE = NTS 8



BOAT RAMP (TYPICAL)  
SCALE = NTS 9

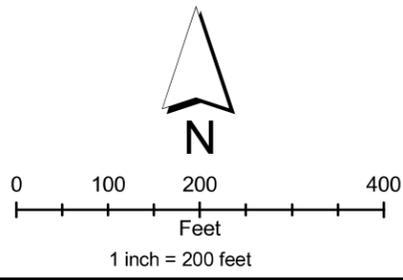
SEWER PROFILE  
VERTICALSCALE: 1 INCH = 4 FEET 10



US ARMY CORPS OF ENGINEERS OMAHA DISTRICT RAPID RESPONSE PROGRAM		
SURVEYED BY/DATE E.I.D LLC 08/27/12		<b>Figure 5</b> RESTORATION AS-BUILT DETAILS FOR OU1
DRAWN BY/DATE S. MARTIN 10/02/12		
CHECKED BY/DATE S. FELTON 10/02/12		LIBBY ASBESTOS SITE LIBBY, MONTANA
SUBMITTED BY/DATE S. FELTON 10/02/12		SCALE: AS NOTED DATE: 10/02/12 FILE LOCATION: ..\2012 PROPERTIES\OU1\CAD\AS-BUILT.DWG
SHEET #:		PLOT SCALE: 1 : 1 DRAWING TYPE: AS-BUILT



Note: Contamination may be found at shallow depths around utility poles and guy wire anchors (typically at a 1:1 slope).



- |  |   |
|--|---|
|  Existing Soil Cover      |  OU2 Subareas          |
|  Seasonally Flooded Areas |  OU2 Boundary          |
|  Riprap Cap               |  Fence Line            |
|  Well Location            |  Remedial Action Areas |

Figure 6  
 Location of Protective Covers  
 and Remedy Components at  
 OU2 Libby Asbestos  
 Superfund Site, Lincoln  
 County, Montana



## **Appendix A**

### **COMMUNITY INTERVIEW DOCUMENTATION**

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 7 am
<b>Individual Contacted:</b>		
<b>Name:</b> Peggy Williams, Doug Roll, et.al.		<b>Title:</b> Council Woman, Mayor
<b>Organization:</b> Libby Mayor and City Council		
<b>Telephone No:</b> 406.293.3464		<b>Street Address:</b> 1103 Utah Avenue <b>City, State, Zip:</b> Libby, MT
<b>Fax No:</b>		
<b>Email Address:</b>		
1. <b>What is your overall impression of the remedy for OU1 and OU2? _ N/A</b>		
2. <b>Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns? N/A</b>		
3. <b>Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b>  <b>City Council:</b> We have had incidents such as tree planting, tent pegs, and groups putting up volleyball nets. Tent pegs may hurt the irrigation system. Vicky Lawrence is figuring out a solution.		
4. <b>Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b>  <b>City Council:</b> There has been talk about a possible dog park—city council says no.		
5. <b>Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b>  <b>City Council:</b> If playground goes in, what happens? Go to Lincoln County ARP.		
6. <b>Do you feel well informed about the site's activities and progress?</b>  <b>City Council:</b> The biggest concern is institutional controls to homeowners and how much it will cost the owner. Another concern may be that the State would not be able to afford O&M.  <b>Peggy:</b> At what point will EPA/MDEQ have the answers of who's taking over O&M into the future?		
7. <b>Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.</b>  <b>Peggy:</b> Are there any ideas on how to maintain the integrity of the remedy? Council people will be educating future people on what happened. I suggest a centralized information center so one can make a call for help. This would need to be mobilized right away.  <b>Doug:</b> Enforcement of institutional controls may be a problem.		

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 9 am
<b>Individual Contacted:</b>		
<b>Name:</b> Jim Smith	<b>Title:</b> Police Chief	<b>Organization:</b> Libby Police Department
<b>Telephone No:</b> 406.293.3343		<b>Street Address:</b> 603 Mineral Avenue PO Box 1428 <b>City, State, Zip:</b> Libby, MT
<b>Fax No:</b>		
<b>Email Address:</b>		
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b>  <b>Chief Smith:</b> I'm happy with the remedy, and EPA was instrumental in designing the park. What happened over there is much better than it was. It is a park the city can be proud of.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b>  <b>Chief Smith:</b> OU1 has been an effect in a positive way—a park that the City can be proud of. There's a Veteran's memorial and a lot of people getting involved in it.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b>  <b>Chief Smith:</b> There haven't been any problems yet. Three years ago, after first cleanup, someone claimed there was still asbestos in some of the dirt, so ERS cleaned up an area again. There was some suspicion that the contamination was planted.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b>  <b>Chief Smith:</b> Last year a couple of teenage kids got their truck stuck in the park doing donuts, drove through a puddle of mud, and got ticket (cited for criminal mischief, destruction of public property). They were caught for their activities. It was near the boat parking area. The truck's tires sunk a few feet in the mud (tire tracks in mud). Jim Hammons may have sent a city crew to clean up.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b>  <b>Chief Smith:</b> Jim Hammons' crews take care of all of the maintenance activities (City Services)..</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b>  <b>Chief Smith:</b> Yes, I feel well-informed. It was mentioned to contact Nick Raines with Lincoln County ARP if there is any damage to the cap.</p>		
<p><b>7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.</b>  <b>Chief Smith:</b> It was all designed and handled well. There were a few obstacles that got in the way, but the end result was good.</p>		

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 2 pm
<b>Individual Contacted:</b>		
<b>Name:</b> Damon Repine and Nic Pisciotta		<b>Title:</b>
		<b>Organization:</b> CDM Smith
<b>Telephone No:</b> 406.293.8595		<b>Street Address:</b> 875 US Highway 2
<b>Fax No:</b>		<b>City, State, Zip:</b> Libby, MT 59923
<b>Email Address:</b>		
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b></p> <p><b>Damon:</b> I think that the remedy is the good but the O&amp;M or ICs is not set up yet to protect the public. There's no enforcement of the ICs right now. Is the money well spent and protective in the future?</p> <p><b>Nic:</b> The above has been a question all along because there's a split of people who want an IC and some who don't. Some people don't want to be forced to anything but some people think we should have enforcement.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b></p> <p><b>Damon:</b> OU1 has had a big effect on the community because community land can be used without worry of being exposed. I've done a lot of work down there and previous removal processes didn't do enough which is why we went back and removed more contaminants. I think now we can have commerce down there and before it was just a barren wasteland. We need to always ask what the end goal is so a property can be completed in the future. For OU2, I think the concerns are regarding the money spent on response for the amount of people. EPA &amp; contractors didn't have enough information at the time and were doing the worst first.</p> <p><b>Nic:</b> Similar viewpoint.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b></p> <p><b>Damon and Nic:</b> For OU1, 3-4 emergency responses (flag pole, bathrooms, trees, street light poles, and Veteran's memorial). There's been post-work there by City and utility companies. We assisted with this work through the ERS program, removing spoils and with inspection/oversight. This is all documented by the site. The City has been pretty good about letting the project know about any work. Want to make sure the City does a good job with any maintenance, EPA project people can help monitor this.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b></p> <p><b>Damon:</b> There's been a lot of buy-in for working together on OU1– you don't know much about OU2 even if you see activities out there.</p> <p><b>Nic:</b> One, being a public piece of property (OU1), and concerns about activities on OU2 that might not be heard about such as highway work on the ROW.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b></p> <p><b>Damon and Nic:</b> Yes.</p>		

**INTERVIEW QUESTIONS**

**Name:** Damon Repine and Nic Pisciotta      **Organization:** CDM Smith      **(Concluded)**

**6. Do you feel well informed about the site’s activities and progress?**

**Nic:** Yes, working on the project, but not sure if I would feel as informed as a citizen. I don’t read the paper, and bought a house that doesn’t have contamination, so I might not be as aware if I wasn’t working on the project. I agree that the information is definitely out there and, in general, the community is well-informed based on conversations with others.

**Damon:** I think the EPA has done enough to let people know if there are issues. If it affects you, you would look into it—especially in the newspapers— but some don’t. Citizens would just have to pick up the phone and call to find information. I think that EPA has done a good job compared to what others say.

**7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.**

**Damon:** I’m concerned with lack of commitment by the county and city to make Libby safer and cleaner when they find asbestos contamination. They should lead by example to call EPA and do the right thing.

**Nic:** Having enforceable institutional controls is going to be critical. It doesn’t have to be anything monetary (e.g. free permit system) but maybe some kind of fine system to help encourage people to get the permit. I thought it was a great idea.

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 11 am
<b>Date:</b> 3/11/14		
<b>Individual Contacted:</b>		
<b>Name:</b> Jim Hammons and Corky Pape		<b>Title:</b> City Administrator / Street Supervisor
<b>Organization:</b> City of Libby		
<b>Telephone No:</b> 406.293.2731 x4		<b>Street Address:</b> 952 E. Spruce Street <b>City, State, Zip:</b> Libby, MT 59923
<b>Fax No:</b>		
<b>Email Address:</b> Jim.Hammons@cityoflibby.com		
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b></p> <p><b>Jim:</b> I haven't been up to OU2.</p> <p><b>Corky:</b> They have cleaned down to certain depth so utility mains can be accessed.</p> <p><b>Jim:</b> Talked about utility corridors, put in a deep sewer line, power lines, and water line.</p> <p><b>Corky:</b> There is contaminated material down at depth beneath Riverfront Park.</p> <p><b>Jim:</b> Uprooted trees could cause recontamination.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b></p> <p><b>Jim:</b> I feel positive that it's cleaned up and community members can use the park. Before it was a nap weed-infested field.</p> <p><b>Corky:</b> It is a usable area now when it wasn't.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b></p> <p><b>Jim/Corky:</b> Sprinkler repairs, planting trees, Veteran's memorial, sidewalks.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b></p> <p><b>Jim/Corky:</b> Talking about planting more trees and a vaulted toilet (not flush-type). Don't want to put sewer through the whole park.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b></p> <p><b>Jim:</b> Any construction would go through the City of Libby and they would call ERS.</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b></p> <p><b>Jim:</b> Any activities in Riverfront Park, City of Libby is involved with. Building inspector comes and talks with residents about their house. If a water line is dug, they don't know if they contact an inspector.</p>		

**INTERVIEW QUESTIONS**

**Name:** Jim Hammons and Corky Pape    **Organization:** City of Libby    **(Concluded)**

**7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.**

**Corky:** They call U-Dig and then ERS/ARP but then there is a gray area on who would clean it up. If there was a major repair at the park or a structure fire, who would come clean up property in 5 years?

**Jim/Corky:** Contracting and digging up water mains this year and the contractors dig it up regardless so they are not tied up on it and can move forward. They don't think most of the contractors would call U-Dig or ERS/ARP

**Jim:** Suggestion: if a contractor is going to do any work, there should be an on-site ERS/ARP inspector at no cost to the homeowner.

**Corky:** Stop a water line repair for 2 weeks waiting for ERS/ARP. Costs the contractor money to stop a project.

**Jim:** Water line project digging into already cleaned up areas and perhaps recontaminating the area (e.g. alleys).

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> <b>Date:</b> 3/11/14
<b>Individual Contacted:</b>		
<b>Name:</b> Rick Ball, Bob Parker, Russ Barnes, Gary Huntsberger, Ed , Paul Rumelhart, Kirby Maki		<b>Title:</b> Committee Members <b>Organization:</b> HCI (Healthy Communities Initiative Group)
<b>Telephone No:</b> 406.293.8811 <b>Fax No:</b> <b>Email Address:</b>		<b>Street Address:</b> 724 Louisiana Avenue <b>City, State, Zip:</b> Libby, MT 59923
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b></p> <p><b>Bob:</b> It's your solution, so hope it's correct.</p> <p><b>Gary:</b> Completed, don't know what more you can do. Thanks for the effort for Riverfront Park, it looks good now. Good job cleaning up both of those areas. Thanks everyone.</p> <p><b>Gary:</b> There is no access to river from Mel Parker's property.</p> <p><b>Paul:</b> There is contaminated bark on OU2.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b></p> <p><b>Paul:</b> No impact from OU2 (access restricted). OU1 has had a great impact (positive) with weddings, festivals, other events.</p> <p><b>Gary:</b> EPA participated much more in Riverfront Park much more than many community members maybe thought.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b></p> <p><b>Gary/Ed:</b> There has been tree planting in Riverfront Park. Veteran's monument is complete.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b></p> <p><b>Gary:</b> Planting trees. There has been flooding in areas, park has been saturated.</p> <p><b>Paul:</b> Landscaping will be a continual effort on Riverfront Park.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b></p> <p><b>Gary/Rick:</b> Call U-Dig when you are doing construction activities.</p> <p><b>Gary:</b> Libby Tree Board is a public service available to help. You can apply for grants and get money from the City for maintenance. Everything done on Riverfront Park is approved through the City.</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b></p> <p><b>Gary:</b> I get information from the Tree Board.</p> <p><b>Paul/Gary:</b> We feel we are informed about Riverfront Park, but not OU2 (private properties).</p>		

**INTERVIEW QUESTIONS**

**Name:** Jim Hammons and Corky Pape    **Organization:** City of Libby    **(Concluded)**

**7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.**

**Gary:** EPA is doing monitoring.

**Paul:** There have been question asked about Lincoln County ARP.

**Gary:** One concern is that the community does not want to pay. Does State of Montana take over funding after the next few years? Lincoln County does not have money to fund ICs.

**Bob:** Why can't the EPA keep funding the project?

**Gary:** It will be hard to sell a property if you don't have it cleaned up.

**Rick:** Large property that is not cleaned up but trying to sell.

**Kirby/Ed:** Timber can be harvested, but also worried about the fires, with the contaminated bark and forest.

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 8 am
<b>Date:</b> 3/12/14		
<b>Individual Contacted:</b>		
<b>Name:</b> Nick Raines and Jennifer McCully		<b>Title:</b>
		<b>Organization:</b> Lincoln County ARP
<b>Telephone No:</b> Nick: 406.283.2462		<b>Street Address:</b> 418 California Avenue
<b>Fax No:</b>		<b>City, State, Zip:</b> Libby, MT 59923
<b>Email Address:</b> nraines@libby.org		
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b></p> <p><b>Nick:</b> My opinion regarding OU1 is that it was amazing for the EPA to work with the City to get closer to their plans for Riverfront Park. I know what went into it and what was done—I think it was an effective remedy (complete cap on entire site) breaking any complete exposure pathway on OU1. I am less familiar with OU2—it is less visible, there are some concerns, but it might be a moot point. Some areas with low concentration left at the surface might be a concern, but they were really low levels (trace) so it might not be a concern anymore</p> <p><b>Jenn:</b> I have no direct experience with the OUs—I was under an impression that there’s a cap and it is working well, unless you penetrate the cap. I have no impressions of OU2.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b></p> <p><b>Jenn:</b> I’m not aware of any concerns. OU1 is great—they worked well with the City. I also think everyone is happy with OU2-it is not a huge impact on the community.</p> <p><b>Nick:</b> I have experienced mostly positive effects especially regarding OU1—the park dedication had a very positive effect and showed major progress on the site. It showed a major step, and moving on, and was received by the community as such. For OU2, sometimes I hear personal concerns, for example, what was done for private property, how much was spent, and some continual complaints from current property owners. There have been no exposure concerns though.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b></p> <p><b>Nick:</b> Search and Rescue is on OU1—they are constantly working; there isn’t a significant concern of having something happen on OU1 because they have a remedy and there’s no concern about the remedy. The Search and Rescue building has been sampled often. Quick responses, for instance, installing light poles or other structure work went well coordinating with EPA and was done safely.</p> <p><b>Jenn:</b> A lot of the above-mentioned activities I would imagine would be on OU1, but probably not on OU2. Locals are pretty respectful that Riverfront Park is a cap, maybe not out-of-towners though.</p> <p><b>Nick:</b> I haven’t witnessed any incidents, but looking at OU1 last year there were often tracks from people off-roading in the park (on slope or near railroad tracks). Possibly just some kids having fun. The City put big boulders there.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b></p> <p><b>Jenn:</b> I don’t know of anything specific, but every summer it seems like the City has some kind of improvement plans on the Riverfront Park.</p>		

<b>INTERVIEW QUESTIONS</b>	
<b>Name:</b> Nick Raines and Jennifer McCully <b>Organization:</b> Lincoln County ARP <b>(Concluded)</b>	
<b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b>	<p><b>Jenn:</b> Absolutely—call the ARP hotline and we’ll help you! I can point you in the right direction.</p> <p><b>Nick:</b> Yes, call ARP or us.</p>
<b>6. Do you feel well informed about the site’s activities and progress?</b>	<p><b>Jenn:</b> I am catching up on the site’s activities and progress, and I know where to go to get the information and resources. There is definitely enough information and resources out there to catch up on site activities.</p> <p><b>Nick:</b> I feel aware and well-informed being a part of the project—I think there are plenty of opportunities to become well-informed.</p>
<b>7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.</b>	<p><b>Nick:</b> Question—is there a deed notice or other IC for Riverfront Park? The City is thinking about it—and it might help with an eventual partial deletion.</p>

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 2 pm
<b>Date:</b> 3/12/14		
<b>Individual Contacted:</b>		
<b>Name:</b> Mike Chapman		<b>Title:</b> Property Owner's Representative
		<b>Organization:</b> WR Grace
<b>Telephone No:</b> 406.283.1983		<b>Street Address:</b> 214 Brown Way
<b>Fax No:</b>		<b>City, State, Zip:</b> Libby, MT 59923
<b>Email Address:</b>		
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b></p> <p><b>Mike:</b> Hopefully good. I think that the areas they've done, they have done to the best of their ability. There have been a lot of learning curves, same as any project, but they are willing to adapt. Anything like this will have problems and learning curves, and issues with soil. I feel it's been good.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b></p> <p><b>Mike:</b> The biggest effect on the community is the uncertainty of what's really going on and how long it's going to take. The ramifications that the City sees on that, because of lack of tourism, and people buying property—compared to what it used to be. Until the project's done, there is certainty, it's hard for people to have confidence and invest in this community.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b></p> <p><b>Mike:</b> No.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b></p> <p><b>Mike:</b> No. I'm sure there are, but I don't know what there are.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b></p> <p><b>Mike:</b> Yes—public services are available for construction. People seem to find contractors by word of mouth and go from there. If he would hit any contamination, he would call Mike Cirian, EPA.</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b></p> <p><b>Mike:</b> The community has been well informed, but the uncertainty of the toxicity value is very confusing, and the vermiculite is very confusing to people—they think that every flake is contaminated with asbestos and it really isn't. Cleaning up visible vermiculite and naturally occurring contamination has been confusing—people don't realize that some material came from the mine and some came from the glacier. He's not sure if they just don't care or they aren't grasping these concepts.</p>		

**INTERVIEW QUESTIONS**

**Name:** Mike Chapman      **Organization:** WR Grace      **(Concluded)**

**7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.**

**Mike:** One thing that would help the community would be information when the project will be done. It would build confidence and gain tourism back—listening to realtors in town, the impression we get is that the uncertainty of coming to Libby is still out there—it’s confusing to people who even want to just drive through the area. The realtors would be helpful to visit since they are in survival mode—other areas are doing better (e.g. Kalispell, Bonner’s Ferry). Libby seems to be losing business right and left and not attracting the kind of people who want to invest in the community. As soon as confidence is restored, and people know when everything will be complete—if there is a completion date, let community know. We should be done with white suits in yards, and the bad impression given to the outside community.

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 2 pm
<b>Individual Contacted:</b>		
<b>Name:</b> Mel Parker		<b>Title:</b> Residential Property Owner
<b>Organization:</b>		
<b>Telephone No:</b> <b>Fax No:</b> <b>Email Address:</b>		<b>Street Address:</b> 80 River View Road <b>City, State, Zip:</b> Libby, MT 59923
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b>  <b>Mel:</b> I am concerned about the possibility of recontamination and erosion on OU2.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b>  <b>Mel:</b> I have concerns about cleanup activities at the mine site, and whether Rainy Creek restoration will influence my property in OU2.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b>  <b>Mel:</b> There has been Rainy Creek spillover on to my residential property in OU2. This was addressed by putting clean fill and vegetative cover over this area.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b>  <b>Mel:</b> No comment.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b>  <b>Mel:</b> No comment.</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b>  <b>Mel:</b> I would like copies of the Community Engagement Plan, OU2 IC Plan, and the OU2 Interim Post-Construction Risk Assessment.</p>		
<p><b>7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.</b>  <b>Mel:</b> I would like information on 'partial deletion' regarding OU2.</p>		

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 9 am
<b>Date:</b> 3/12/14		
<b>Individual Contacted:</b>		
<b>Name:</b> Kevin Lindgren	<b>Title:</b> President	<b>Organization:</b> Search & Rescue
<b>Telephone No:</b> 406.293.3556		<b>Street Address:</b> 301 City Service Road
<b>Fax No:</b>		PO Box 1552
<b>Email Address:</b>		<b>City, State, Zip:</b> Libby, MT 59923
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b></p> <p><b>Kevin:</b> The safety aspect, from my understanding, seems to be remediated in an acceptable way. The Search and Rescue building used to stand alone, but now there's a park. They haven't had any troubles and no one has expressed any concern. They use building for trainings or events.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b></p> <p><b>Kevin:</b> I'm not aware of any concerns. From the communities' perspective, we're satisfied with the remedy. It has not affected what they're doing, very minimally if at all.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b></p> <p><b>Kevin:</b> None that I'm aware of.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b></p> <p><b>Kevin:</b> No plans at the Search &amp; Rescue building.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b></p> <p><b>Kevin:</b> I'm not sure who they would call, but I would call Nick Raines, Lincoln County with any questions. Anything they do would go through the County anyway.</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b></p> <p><b>Kevin:</b> I'm fairly well informed—we've tried to stay informed. Once the park is pretty well set, and everything is a permanent fixture, the comments and concerns will be answered. We've kept up with most of what's going on.</p>		
<p><b>7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.</b></p> <p><b>Kevin:</b> Not at this time.</p>		

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> <b>Date:</b>
<b>Individual Contacted:</b>		
<b>Name:</b> Trent Oelberg	<b>Title:</b> Director	<b>Organization:</b> Libby Revitalization, Inc.
<b>Telephone No:</b> 406.293.5900 <b>Fax No:</b> <b>Email Address:</b>		<b>Street Address:</b> 5601 Kootenai River Road <b>City, State, Zip:</b> Libby, MT 59923
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b>  <b>Trent:</b> OU1 is pleasing to the eye, everyone likes what we did. The rocks take away from the remedy. What you guys did was great. Was involved in excavation with 2008. Our overall impression was EPA did a marvelous job.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b>  <b>Trent:</b> Festival director for Riverfront Blues Festival, and visitors from all over the country came the second weekend of August. People from England and Calgary came too. There have been favorable opinions from visitors throughout the country. It has been a very positive effect on the City (speaking re Riverfront Park).</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b>  <b>Trent:</b> When they first built the pavilion they had some problems with kids with skateboards, mostly concerning the pavilion. They pulled electrical outlets out of the pavilion. Not any effect to the cover or grass though.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b>  <b>Trent:</b> Not aware of any landscaping, I thought it was all done.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b>  <b>Trent:</b> Phone call to U-Dig, and the Lincoln County ARP.</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b>  <b>Trent:</b> Yes, I think everyone has been kept up-to-date.</p>		
<p><b>7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.</b>  <b>Trent:</b> For OU1, they wanted to put a bank along the railroad for aesthetic purposes, and to block the sound and view. It might have been too expensive. Kayak rentals on the river have been suggested, the outfitters are to be stationed down by the river near OU1. The only thing I'm concerned about (regarding economic development) is when EPA pulls out of here. People are concerned that homes that won't sell, and a dark cloud of being a Superfund Site will hang over us. We need to celebrate when EPA leaves and move on. The Chamber of Commerce is not bringing in business. People are most worried about the Superfund stigma and economic redevelopment. There are ideas for kayak/canoe rentals; whitewater river rafting; mountain biking trails, etc.</p>		

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b>
<b>Individual Contacted:</b>		
<b>Name:</b> Jeremy Ayala / Chuck Jackson		<b>Title:</b> Director
<b>Organization:</b> USACE / ER/PRI		
<b>Telephone No.:</b> (303) 808-2269		<b>Street Address:</b> 875 US Highway 2
<b>Fax No.:</b>		<b>City, State, Zip:</b> Libby, MT 59923
<b>Email Address:</b>		
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b></p> <p><b>Chuck:</b> Great job on OU1 and OU2 – it is a good thing for the community. Boat ramp is great; went from being a field to a great park.</p> <p><b>Jeremy:</b> OU2 – less familiar with it, but it looks good. OU1 – we have really changed this place; there were complaints initially but not now.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b></p> <p><b>Chuck and Jeremy:</b> There has been a positive effect on the community.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b></p> <p><b>Jeremy:</b> While doing work there, we found a vermiculite source near an old road. Since the removal was completed we have worked well with city to manage area.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b></p> <p><b>Jeremy:</b> I don't know about any plans regarding OU2. Perhaps some consideration of more parking or a building of sorts near railroad tracks for OU1.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b></p> <p><b>Jeremy:</b> ERS, ARP and UDIG is available for support; we coordinate closely with Jim Hammond and Corky Pape at City of Libby.</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b></p> <p><b>Jeremy:</b> I am very informed.</p> <p><b>Chuck:</b> EPA should be very proud.</p>		
<p><b>7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.</b></p> <p><b>Jeremy:</b> I previously provided comments on ICs to Rebecca Thomas. There are many drainage issues around town and city needs to address this; the city will need guidance on how best to do this. I just want to see the city maintain this area; I know they say they can but will they?</p>		

<b>INTERVIEW QUESTIONS</b>		
<b>Site Name:</b> Libby Asbestos Site OU1 and OU2		<b>EPA ID No.:</b> MT0009083840
<b>Subject:</b> 5-year Review		<b>Time:</b> 1 pm
<b>Date:</b> 3/12/14		
<b>Individual Contacted:</b>		
<b>Name:</b> Vicky Lawrence	<b>Title:</b>	<b>Organization:</b> Tree Board
<b>Telephone No:</b>	<b>Street Address:</b> 804 California Ave	
<b>Fax No:</b>	<b>City, State, Zip:</b> Libby, MT 59923	
<b>Email Address:</b>		
<p><b>1. What is your overall impression of the remedy for OU1 and OU2?</b></p> <p><b>Vicky:</b> I have no opinions on OU2. OU1 seems like a common sense, practical solution. The EPA has told us that any digging or excavation needing to be done, they'll have to look at. There are places at the park that are not 18 inches deep, so one of the trees broke the protective barrier. Putting in bathrooms was a major excavation. There was a good relationship between the Council and EPA. They liked working with Rebecca—she listened to comments, etc. Not sure if the City has the money to maintain the grass and park. I don't think wildflower mix was successful near railroad tracks—it looks like grass is dying.</p>		
<p><b>2. Has the remedy for OU1 and OU2 had an effect on the community? Are you aware of any concerns?</b></p> <p><b>Vicky:</b> Speaking as a former council member, OU1 had been a WR Grace export site (vilified in the community). Doing our part was a symbolic step forward for the community. Let it lay, bury it, and move on was expressed in the community (the park dedication with Rebecca Thomas and Shaun McGrath utilized the "moving on" theme as well). I think poor soil is the cause of concern, and it is the hardest place to dig soil. The community is concerned about the soil and if the trees are going to survive. Too much water on the grass could be bad for the trees. Every summer it looks better though.</p>		
<p><b>3. Are you aware of any events, incidents, or activities at the OU1 and OU2 sites such as vandalism, trespassing or emergency responses from local authorities? If so, please provide details.</b></p> <p><b>Vicky:</b> The only thing I had concerns about is when they put the streetlights in. The first light on the left down the road was not adequately completed; it was eroding under the asphalt and was washing out debris. This concern was expressed to Mike Cirian, EPA. There was erosion on hill before and, matting was put down to control it.</p>		
<p><b>4. Are there plans for construction/demolition/earthwork (including new landscaping) activities in OU1 or OU2? If so, what are they?</b></p> <p><b>Vicky:</b> For OU1, it was the plan to plant trees along the south edge of the park (near Veteran's memorial). There has been talk about installing a vault toilet.</p>		
<p><b>5. Are you aware of available public services to support construction activities in OU1 and OU2 and how/when to access them?</b></p> <p><b>Vicky:</b> I know Mike Cirian personally and anytime I have a concern I call him. They can contact EPA and U-Dig as well.</p>		
<p><b>6. Do you feel well informed about the site's activities and progress?</b></p> <p><b>Vicky:</b> Since I'm not on the Council anymore, a lot of my personal awareness has declined and I am not in the loop.</p>		

**INTERVIEW QUESTIONS**

**Name:** Vicky Lawrence      **Organization:** Tree Board      **(Concluded)**

**7. Do you have any comments, suggestions, or recommendations regarding the overall site? For example, the type of institutional controls being considered.**

**Vicky:** I know where the EPA office is—even if Mike’s not there, I can talk to Linda. I also know Nick Raines and would be able to contact the Lincoln County ARP (not sure if the rest of the community knows that yet). There were estimates of costs of the roadway in the park and details of road maintenance—I don’t think it’s going to happen (too expensive). Normally I don’t contact EPA for tree planting unless I hit orange barrier.

## **Appendix B**

### **LIST OF FIVE-YEAR REVIEW DOCUMENTS**

## **List of Five-Year Review Documents**

- Final Remedial Investigation Report Operable Unit 1 – Former Export Plant Site, Libby  
Asbestos Superfund Site, Libby, Montana, August 3, 2009
- Final Feasibility Study Report Operable Unit 1 – Former Export Plant, Libby Asbestos Site,  
Libby, Montana, August 5, 2009
- Proposed Plan, Libby Asbestos Site OU1 – Former Export Plant, Libby, Montana, September  
2009
- Record of Decision for Libby Asbestos Superfund Site, Former Export Plant, Operable Unit 1,  
Lincoln County, Montana, May 2010
- Final Remedial Action Report, Libby Asbestos Superfund Site Former Export Plant Site,  
Operable Unit 1, Lincoln County, Montana, July 8, 2013
- Operations and Maintenance Plan, Libby Asbestos Superfund Site Former Export Plant Site,  
Operable Unit 1, Lincoln County, Montana, July 15, 2013
- Annual Operation & Maintenance Report, Former Export Plant/Riverfront Park, Operable Unit  
1, Fall 2014, Libby Asbestos Superfund Site , Libby, Montana, November 2014
- Institutional Control Implementation and Assurance Plan, Libby Asbestos Superfund Site, Libby,  
Montana, The Former Export Plant, Operable Unit 1, February 2014
- Interim Post Construction Human Health Risk Assessment, Libby Asbestos Superfund Site, The  
Former Export Plant and Surrounding Properties, Operable Unit 1, Lincoln County,  
Montana, December 2014
- Final Remedial Investigation Report, Operable Unit 2 – Former Screening Plant and Surrounding  
Properties, Libby Asbestos Site, Libby, Montana, August 24, 2009
- Final Feasibility Study Report, Operable Unit 2 – Former Screening Plant and Surrounding  
Properties, Libby Asbestos Site, Libby, Montana, August 2009
- Proposed Plan, Libby Asbestos Site Operable Unit 2 – Former Screening Plant and Surrounding  
Properties, Libby, Montana, September 2009
- Record of Decision for Libby Asbestos Superfund Site, Operable Unit 2 – Former Screening  
Plant and Surrounding Properties, Lincoln County, Montana, May 2010
- Response Action Work Plan, Libby Asbestos Site, Libby, Montana, May 2010
- Final Remedial Action Report, Libby Asbestos Superfund Site, Former Screening Plant and  
Surrounding Properties, Operable Unit 2, Lincoln County, Montana, April 20, 2012
- Operations and Maintenance Plan, Libby Asbestos Superfund Site Former Screening Plant and  
Surrounding Properties, Operable Unit 2, Lincoln County, Montana, July 15, 2013

Institutional Control Implementation and Assurance Plan, Revision 1, Former Screening Plant and Nearby Areas, Operable Unit 2, Libby Asbestos Superfund Site, Libby, Montana, February 2014

Interim Post-Construction Human Health Risk Assessment, Former Screening Plant and Nearby Areas, Operable Unit 2, Libby Asbestos Superfund Site, Lincoln County, Montana, February 2014

Annual O&M Report, Former Screening Plant and Surrounding Properties, Operable Unit 2, Fall 2014, Libby Asbestos Superfund Site, Libby, Montana, December 2014

Amendment A, Libby Asbestos Site Residential/Commerical Cleanup Action Level and Clearance Criteria Technical Memorandum, December 2011

Draft Site-wide Human Health Risk Assessment, Libby Asbestos Superfund Site, Libby, Montana, December 2014

Site-wide Baseline Ecological Risk Assessment for Exposure to Asbestos, Part 2 (Non-OU3), Libby Asbestos Superfund Site, Libby, Montana, January 2015

## **Appendix C**

### **OU1 INSPECTION PHOTOS**

## OU1 List of Photos with Location Descriptions

Photo	Location Description	
1	View of northeast parking lot .....	C-2
2	Western view of parking lot near Kootenai River .....	C-2
3	Embankment near Hwy 37.....	C-3
4	Grassy embankment, entrance road .....	C-3
5	Pump station .....	C-4
6	Area where work was done near pump station .....	C-4
7	Boat ramp.....	C-5
8	Boat ramp near pavilion.....	C-5
9	Parking lot closest to pavilion.....	C-6
10	Vehicle tracks over cover.....	C-6
11	Pavilion and Kootenai River.....	C-7
12	Riverfront park lawn in front of pavilion .....	C-7
13	Area near pavilion with lack of vegetation .....	C-8
14	Lawn in Between pavilions .....	C-8
15	Search and Rescue Building .....	C-9
16	Search and Rescue Building, closer view .....	C-9
17	Search and Rescue Building parking lot.....	C-10
18	View behind Search and Rescue building .....	C-10
19	Gravel area south of Search and Rescue building .....	C-11
20	Dump area and settling area.....	C-11
21	Gravel parking area.....	C-12
22	View of east parking lot.....	C-12
23	View of entrance and east parking lot .....	C-13
24	Stormwater settling area .....	C-13
25	Vegetation near entrance to park .....	C-14
26	Some erosion near street light .....	C-14

Photo 1: View of northeast parking lot



Photo 2: Western view of parking lot near Kootenai River



Photo 3: Embankment near Hwy 37



Photo 4: Grassy embankment, entrance road



Photo 5: Pump station



Photo 6: Area where work was done near pump station

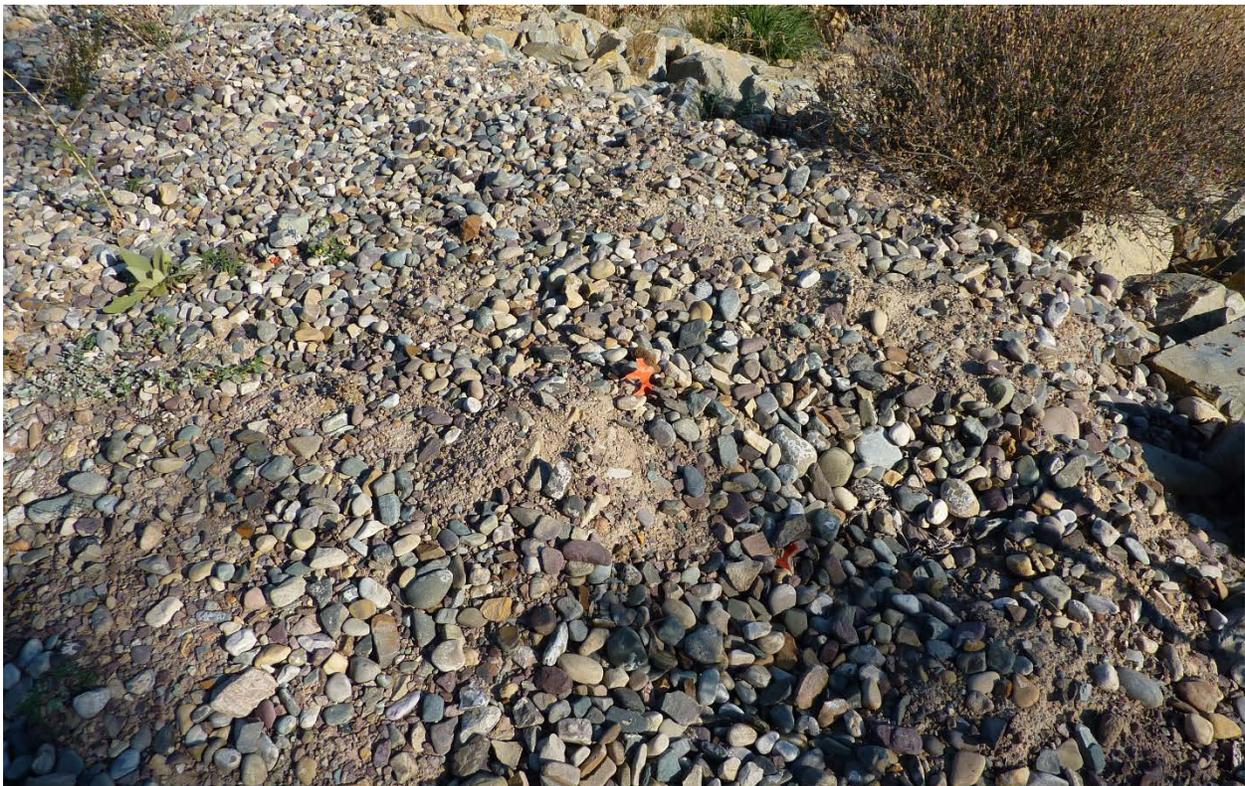


Photo 7: Boat ramp



Photo 8: Boat ramp near pavilion



Photo 9: Parking lot closest to pavilion



Photo 10: Vehicle tracks over cover



Photo 11: Pavilion and Kootenai River



Photo 12: Riverfront park lawn in front of pavilion



Photo 13: Area near pavilion with lack of vegetation



Photo 14: Lawn in between pavilions



Photo 15: Search and Rescue building



Photo 16: Search and Rescue building, closer view



Photo 17: Search and Rescue building parking lot



Photo 18: View behind Search and Rescue building



Photo 19: Gravel area south of Search and Rescue building



Photo 20: Dump area and settling area



Photo 21: Gravel parking area



Photo 22: View of east parking lot



Photo 23: View of entrance and east parking lot



Photo 24: Stormwater settling area



Photo 25: Vegetation near entrance to park



Photo 26: Some erosion near street light



**Appendix D**

**OU2 INSPECTION PHOTOS**

## OU2 List of Photos with Location Descriptions

Photo	Location Description	
1	Property west of road to mine.....	D-2
2	Parker property from Hwy 37 right-of-way.....	D-2
3	Front gate of Parker property from Hwy 37 right-of-way .....	D-3
4	Property east of road to mine.....	D-3
5	Looking west in Flyway property near gate .....	D-4
6	Looking east in Flyway property near gate.....	D-4
7	Southern view, note vegetative cover .....	D-5
8	Eastern view of Kootenai River.....	D-5
9	Western view of Kootenai River.....	D-6
10	View of staging area .....	D-6
11	Hay bales to stop erosion (view of Kootenai River).....	D-7
12	Structure on Flyway property .....	D-7
13	Inlet area from Kootenai River .....	D-8
14	Other erosion controls .....	D-8
15	Western view of Kootenai River from Flyway property .....	D-9
16	Southwest part of Flyway property.....	D-9
17	Northwest part of Flyway property.....	D-10
18	View of east part of Parker property .....	D-10
19	Close-up of Parker property from Flyway property .....	D-11
20	Area where erosion repair was done (water was flowing through this gate).....	D-11

Photo 1: Property west of road to mine



Photo 2: Parker property from Hwy 37 right-of-way



Photo 3: Front gate of Parker property from Hwy 37 right-of-way



Photo 4: Property east of road to mine



Photo 5: Looking west in Flyway property, near front gate



Photo 6: Looking east in Flyway property, near front gate



Photo 7: Southern view, note vegetative cover



Photo 8: Eastern view of Kootenai River



Photo 9: Western view of Kootenai River



Photo 10: View of staging area



Photo 11: Hay bales to stop erosion (view of Kootenai River)



Photo 12: Structure on Flyway property



Photo 13: Inlet area from Kootenai River



Photo 14: Other erosion controls



Photo 15: Western view of Kootenai River from Flyway property



Photo 16: Southwest part of Flyway property



Photo 17: Northwest part of Flyway property



Photo 18: View of east part of Parker property



Photo 19: Close-up of Parker property from Flyway property



Photo 20: Area where erosion repair was done (water was flowing through this gate)

