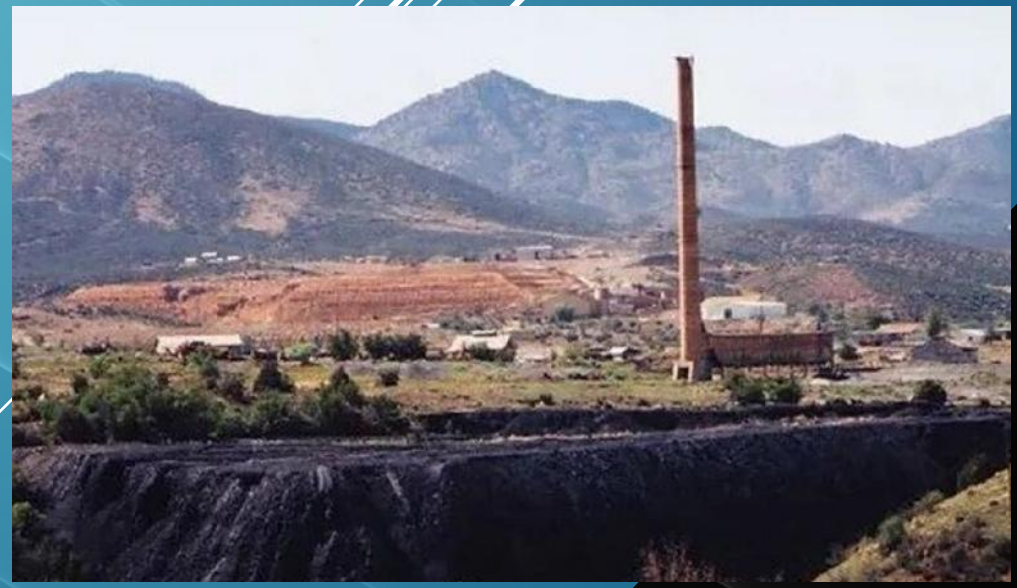
IKM-HS SUPERFUND SITE: INSTITUTIONAL CONTROLS, REDEVELOPMENT & REUSE ISSUES



Town Council | Town of Dewey-Humboldt

February 18, 2025

Manganese Occurrences in Dewey-Humboldt Soils

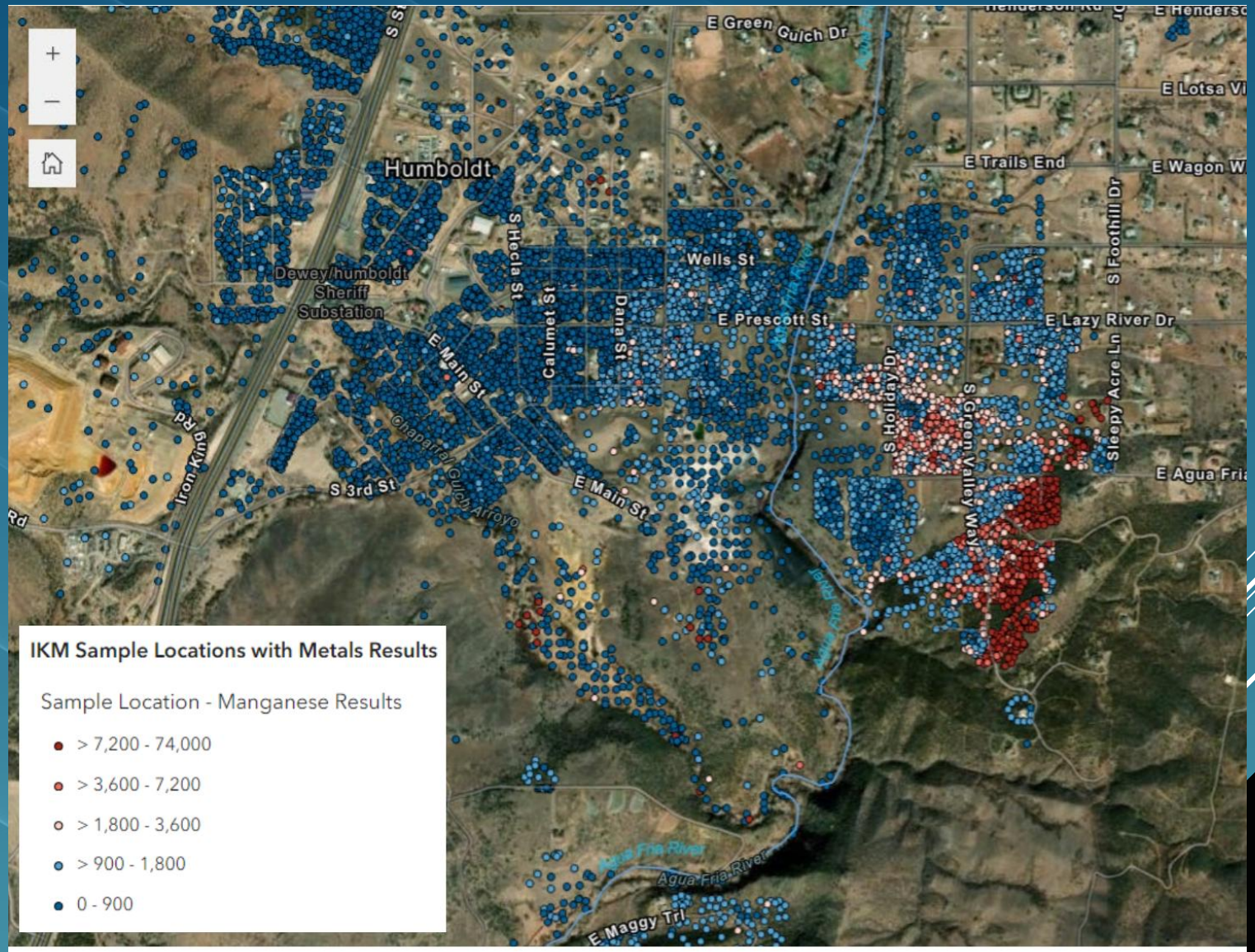


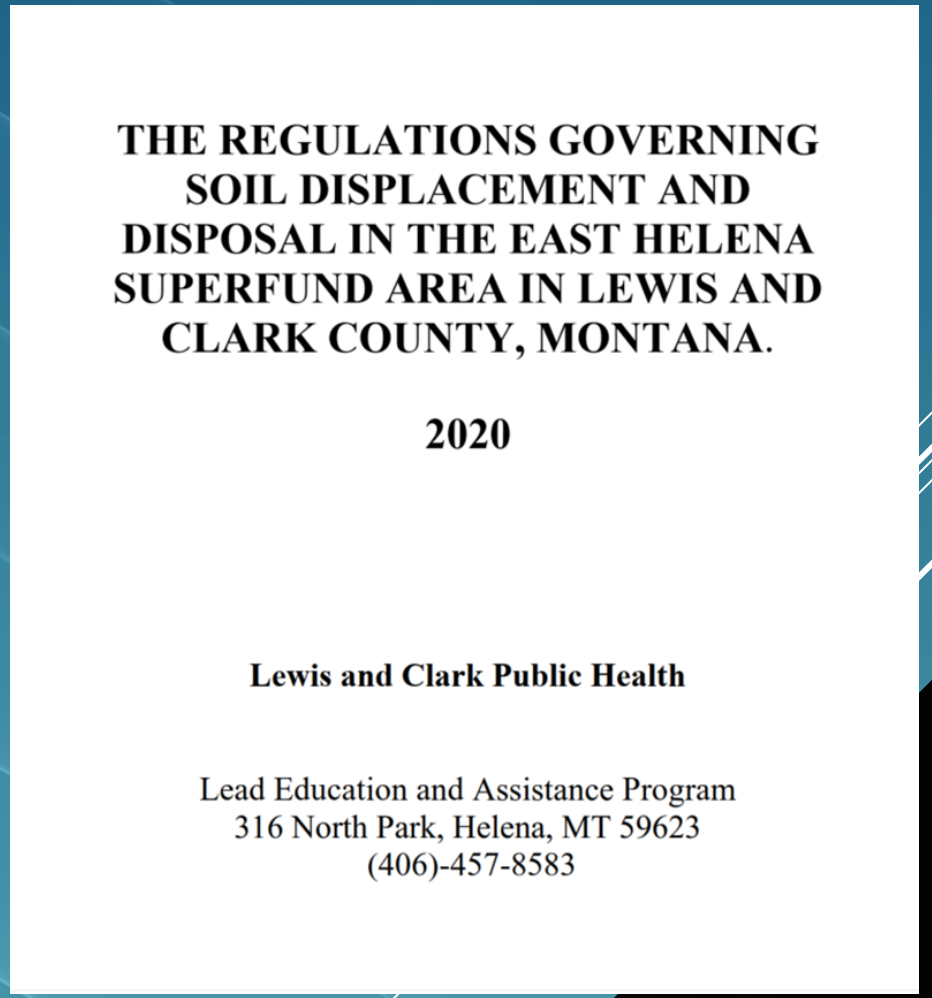
Figure 1: Manganese concentrations in surface soils. Sample points plotted in blue are below the ROD cleanup standard for manganese. Sample points plotted in red are above the cleanup level. See legend for concentration ranges. The Agua Fria River is depicted by the blue wobbly line.

EAST HELENA SUPERFUND SITE
Lewis & Clark County, MT

- Former ASARCO lead/zinc smelter facility that operated from 1888 to 2001
- Contaminated 1000s of acres of residential and agricultural lands
- Contaminated topsoil removed and replaced at:
  - 793 residential yards
  - 50 commercial properties
  - Unpaved roads, alleys, parks, school playgrounds, church properties

EAST HELENA SUPERFUND SITE
Lewis & Clark County, MT

- **INSTITUTIONAL CONTROL FOR SOILS (req'd in ROD)**
  - Needed to cleanup properties not addressed in earlier cleanup efforts
  - EPA had no authority to adopt a soil IC
  - Local government had such authority
  - Multi-jurisdictional extent of contamination issue led the County to adopt a "Soil Displacement and Disposal" ordinance



THE REGULATIONS GOVERNING SOIL DISPLACEMENT AND DISPOSAL IN THE EAST HELENA SUPERFUND AREA IN LEWIS AND CLARK COUNTY, MONTANA.

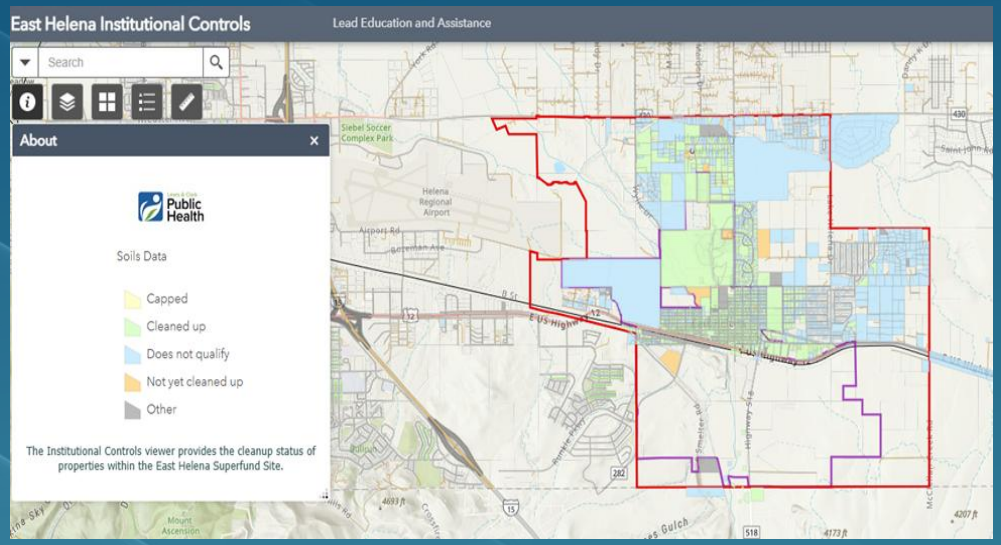
2020

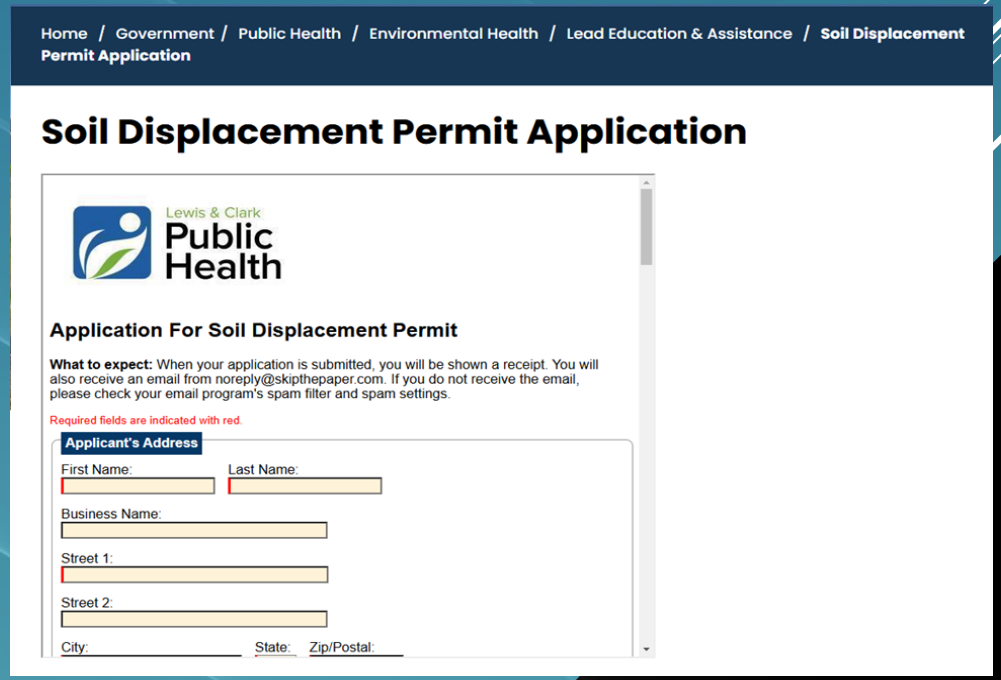
Lewis and Clark Public Health

Lead Education and Assistance Program
316 North Park, Helena, MT 59623
(406)-457-8583

EAST HELENA SUPERFUND SITE
Lewis & Clark County, MT

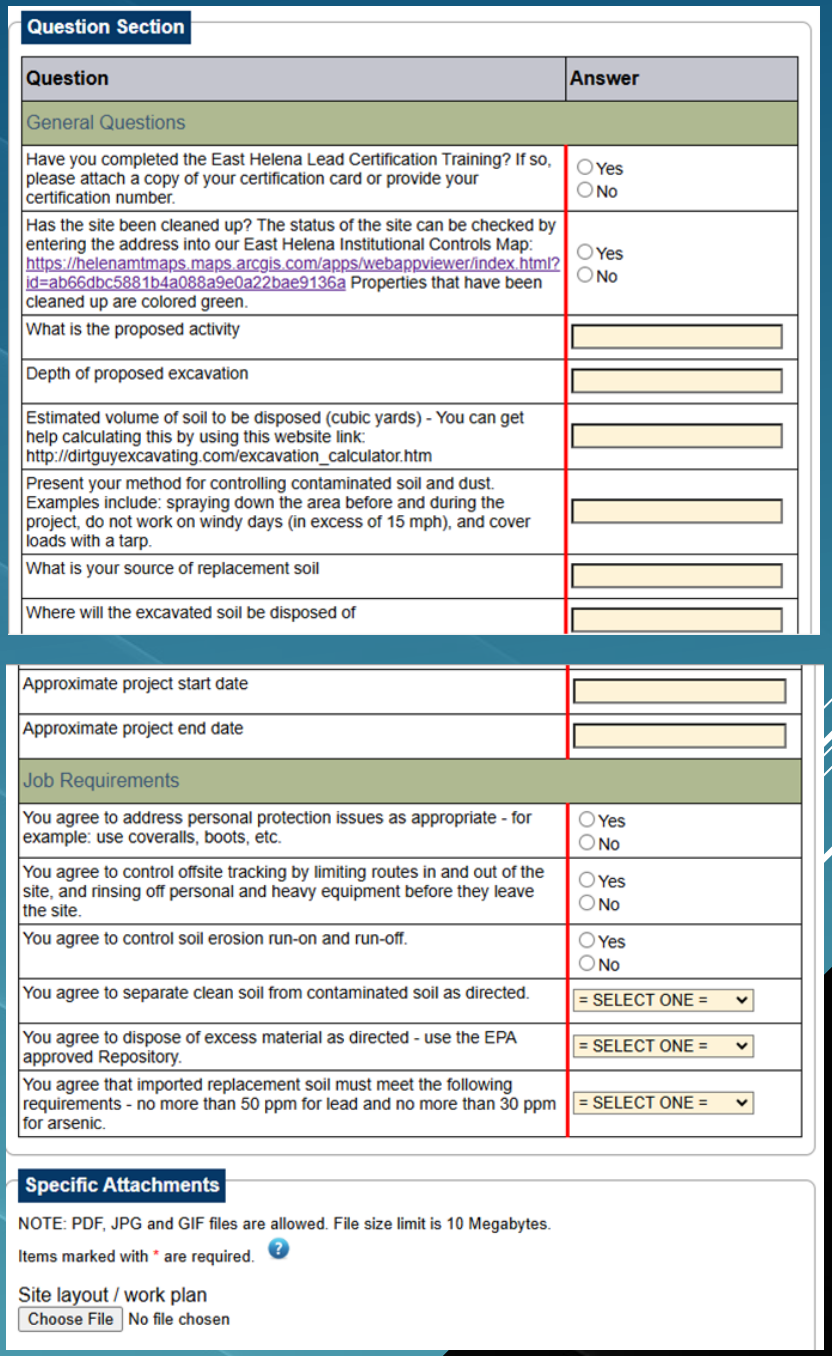
- **SOIL DISPLACEMENT AND DISPOSAL ORDINANCE**
  - Applies to:
    - All properties in a defined district
    - Soil displacements > 1 cubic yard
    - Not to –
      - Undisturbed land with arsenic, lead levels less than standards
      - Properties cleaned up by EPA
  - Requires a permit (applied for online)





EAST HELENA SUPERFUND SITE
Lewis & Clark County, Montana

- **SOIL DISPLACEMENT AND DISPOSAL ORDINANCE**
  - Application requires:
    - Description of the proposed activity
    - Depth of the proposed activity
    - Volume to be excavated or displaced
    - Method for dust control
    - Method for handling contaminated soils
    - Location of disposal for excess soil
    - Source of replacement soil
  - Staff reviews existing soil/cleanup data
  - If no data, applicant must follow prescribed sampling procedure and submit data



Question Section

Question	Answer
General Questions	
Have you completed the East Helena Lead Certification Training? If so, please attach a copy of your certification card or provide your certification number.	○ Yes ○ No
Has the site been cleaned up? The status of the site can be checked by entering the address into our East Helena Institutional Controls Map: https://helenamtmaps.maps.arcgis.com/apps/webappviewer/index.html?id=ab66dbc5881b4a088a9e0a22bae9136a Properties that have been cleaned up are colored green.	○ Yes ○ No
What is the proposed activity	
Depth of proposed excavation	
Estimated volume of soil to be disposed (cubic yards) - You can get help calculating this by using this website link: http://dirtguyexcavating.com/excavation_calculator.htm	
Present your method for controlling contaminated soil and dust. Examples include: spraying down the area before and during the project, do not work on windy days (in excess of 15 mph), and cover loads with a tarp.	
What is your source of replacement soil	
Where will the excavated soil be disposed of	
Approximate project start date	
Approximate project end date	
Job Requirements	
You agree to address personal protection issues as appropriate - for example: use coveralls, boots, etc.	○ Yes ○ No
You agree to control offsite tracking by limiting routes in and out of the site, and rinsing off personal and heavy equipment before they leave the site.	○ Yes ○ No
You agree to control soil erosion run-on and run-off.	○ Yes ○ No
You agree to separate clean soil from contaminated soil as directed.	= SELECT ONE =
You agree to dispose of excess material as directed - use the EPA approved Repository.	= SELECT ONE =
You agree that imported replacement soil must meet the following requirements - no more than 50 ppm for lead and no more than 30 ppm for arsenic.	= SELECT ONE =

Specific Attachments

NOTE: PDF, JPG and GIF files are allowed. File size limit is 10 Megabytes.

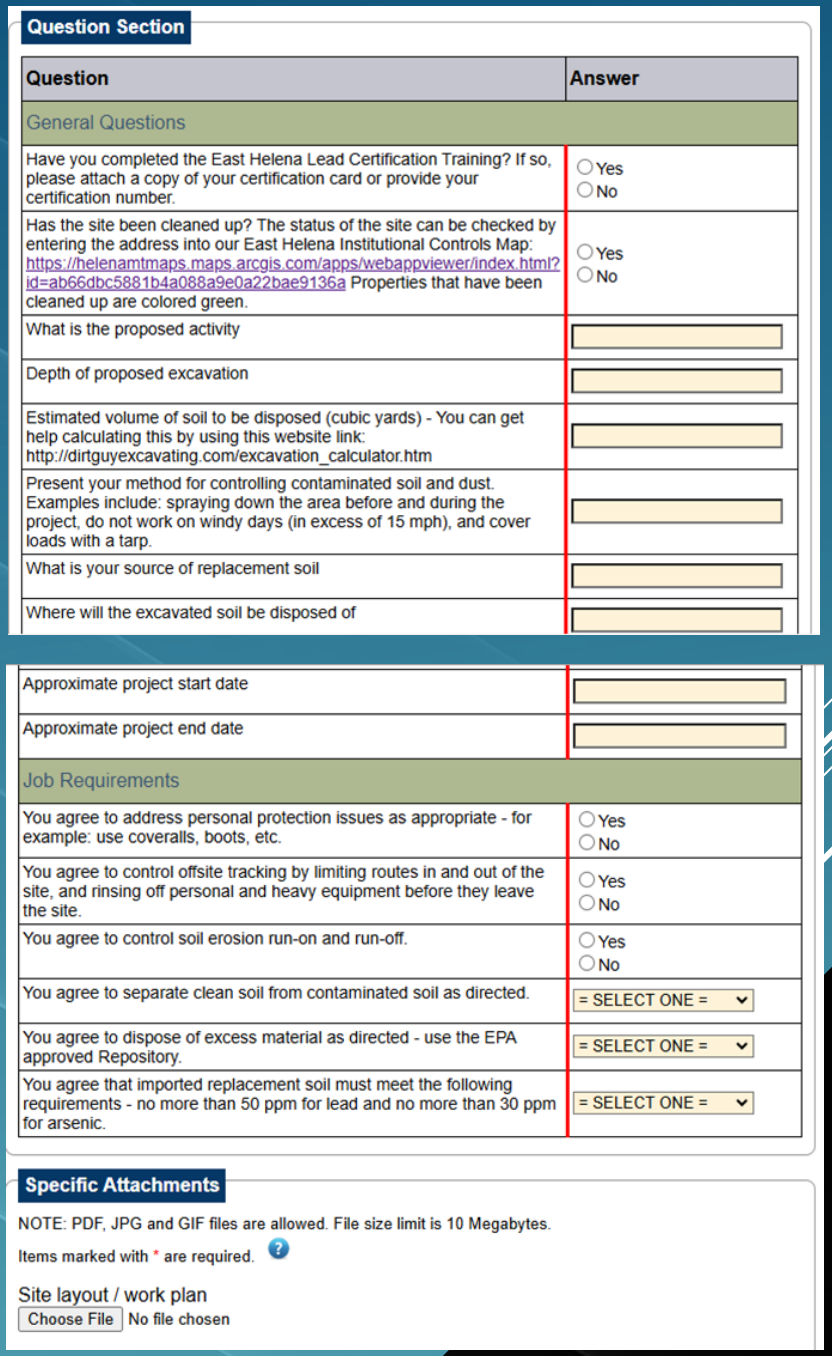
Items marked with * are required.

Site layout / work plan

Choose File No file chosen

EAST HELENA SUPERFUND SITE
Lewis & Clark County, Montana

- **SOIL DISPLACEMENT AND DISPOSAL ORDINANCE**
  - Applicant, or its representative, must complete certain training (15 minutes online)
  - Excess soil must be removed and transported to an EPA's approved repository
  - Excess soil may be reused only on the property if it meets cleanup standards
  - Permit good for 2 years



Question Section

Question	Answer
General Questions	
Have you completed the East Helena Lead Certification Training? If so, please attach a copy of your certification card or provide your certification number.	○ Yes ○ No
Has the site been cleaned up? The status of the site can be checked by entering the address into our East Helena Institutional Controls Map: https://helenamtmaps.maps.arcgis.com/apps/webappviewer/index.html?id=ab66dbc5881b4a088a9e0a22bae9136a Properties that have been cleaned up are colored green.	○ Yes ○ No
What is the proposed activity	
Depth of proposed excavation	
Estimated volume of soil to be disposed (cubic yards) - You can get help calculating this by using this website link: http://dirtguyexcavating.com/excavation_calculator.htm	
Present your method for controlling contaminated soil and dust. Examples include: spraying down the area before and during the project, do not work on windy days (in excess of 15 mph), and cover loads with a tarp.	
What is your source of replacement soil	
Where will the excavated soil be disposed of	
Approximate project start date	
Approximate project end date	
Job Requirements	
You agree to address personal protection issues as appropriate - for example: use coveralls, boots, etc.	○ Yes ○ No
You agree to control offsite tracking by limiting routes in and out of the site, and rinsing off personal and heavy equipment before they leave the site.	○ Yes ○ No
You agree to control soil erosion run-on and run-off.	○ Yes ○ No
You agree to separate clean soil from contaminated soil as directed.	= SELECT ONE =
You agree to dispose of excess material as directed - use the EPA approved Repository.	= SELECT ONE =
You agree that imported replacement soil must meet the following requirements - no more than 50 ppm for lead and no more than 30 ppm for arsenic.	= SELECT ONE =

Specific Attachments

NOTE: PDF, JPG and GIF files are allowed. File size limit is 10 Megabytes.

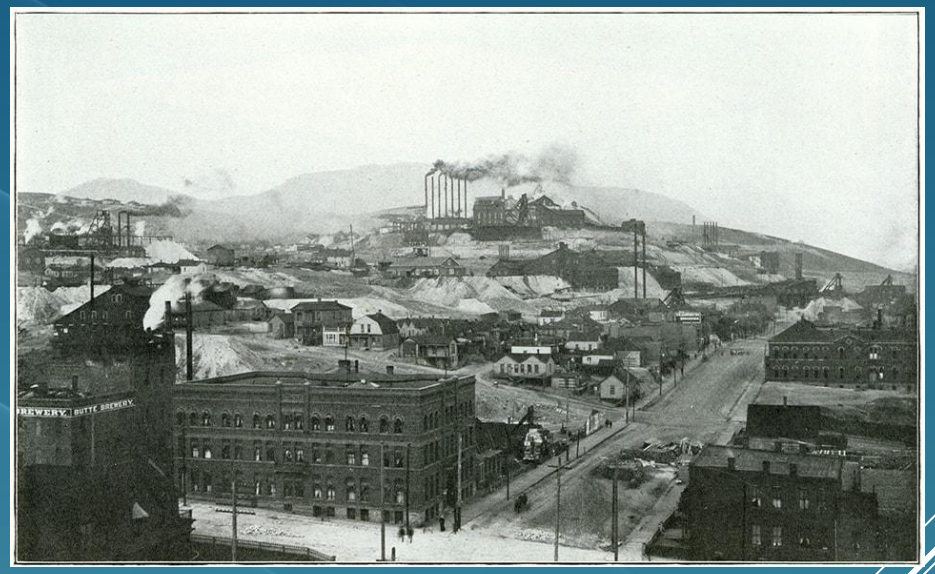
Items marked with * are required.

Site layout / work plan

Choose File No file chosen

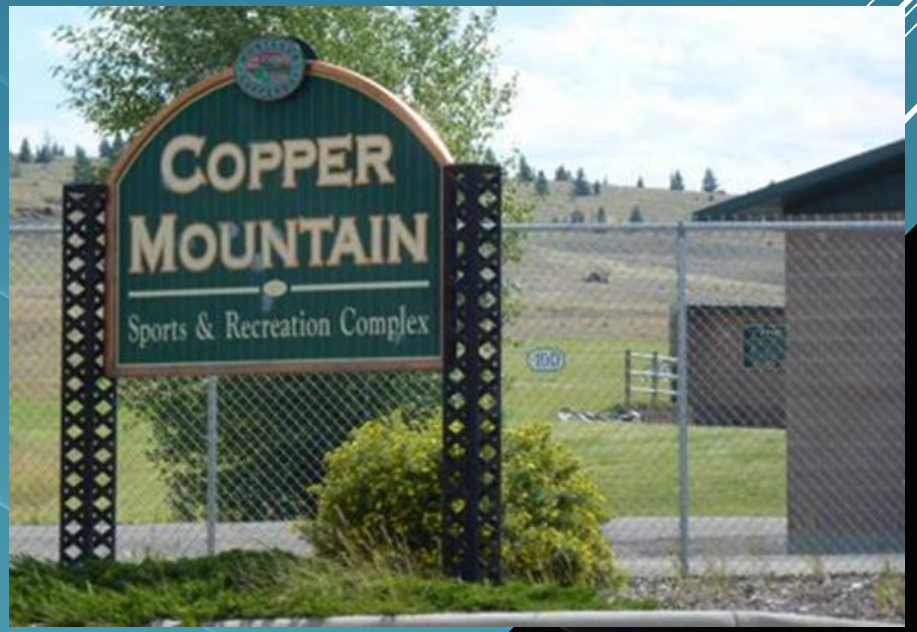
SILVER BOW CREEK/BUTTE AREA SUPERFUND SITE
Butte City, Silver Bow County, MT

- Former metal mining, milling, smelting facilities in and around Butte, MT
- Massive Superfund site established in 1982
- Multiple operable units, including OU-8 covering Butte area soils
  - OU-8 covers 5 square miles of residences, schools, parks, commercial areas
  - Contaminants include arsenic and lead
  - Multiple projects in OU-8, including residential metals abatement program (soils, attic dust, paint, pipes, etc.)



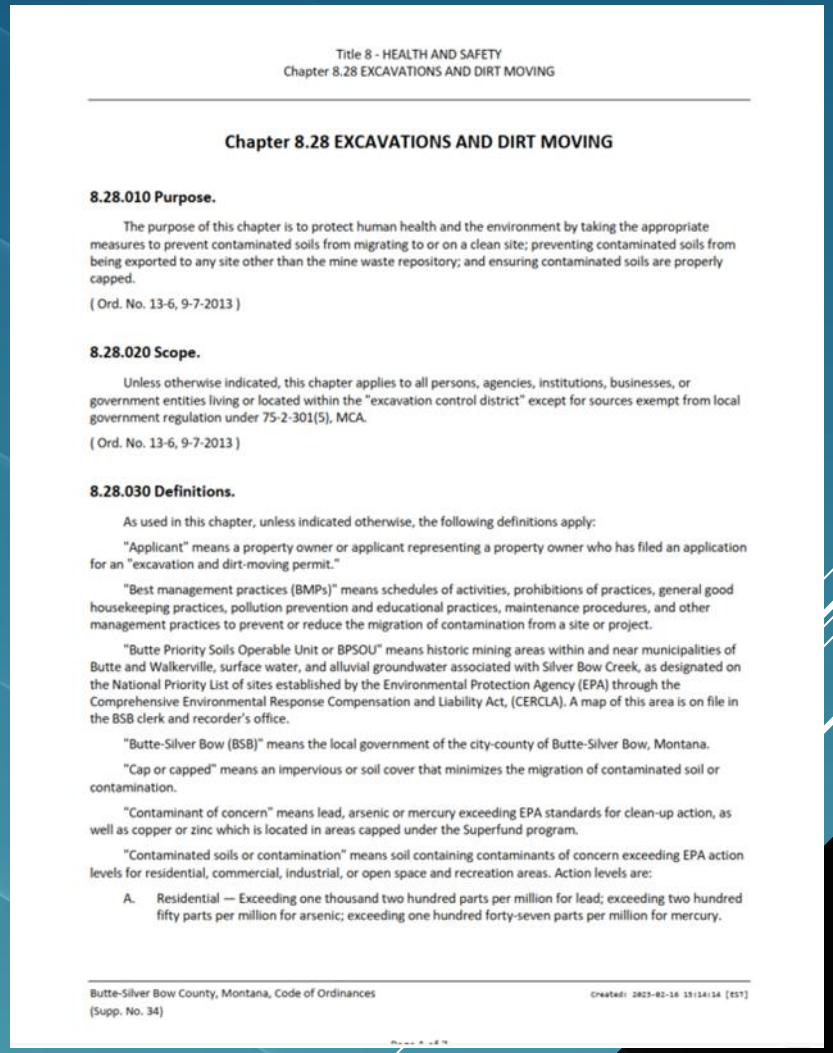
SILVER BOW CREEK/BUTTE AREA SUPERFUND SITE
Butte City, Silver Bow County, MT

- OU-8 includes multiple reuse/redevelopment projects
- Copper Mountain Sports & Recreation Complex is one example
  - Built on top of 1.4 million yards of mine tailings at the 80-acre Clark Tailings area
  - Includes youth baseball fields, driving range/golf course, walking trails, picnic areas, public restrooms



SILVER BOW CREEK/BUTTE AREA SUPERFUND SITE
Butte City, Silver Bow County, MT

- EPA required ICs in OU-8 to complement the ECs, including:
  - Growth Policy/Zoning Ordinance – limits allowable land use and developments
  - Excavation Ordinance – established excavation and dirt-moving protocols to ensure disturbed contaminated soils do not contaminate clean soils and are exported to approved repository



Title 8 - HEALTH AND SAFETY
Chapter 8.28 EXCAVATIONS AND DIRT MOVING

Chapter 8.28 EXCAVATIONS AND DIRT MOVING

8.28.010 Purpose.

The purpose of this chapter is to protect human health and the environment by taking the appropriate measures to prevent contaminated soils from migrating to or on a clean site; preventing contaminated soils from being exported to any site other than the mine waste repository; and ensuring contaminated soils are properly capped.

(Ord. No. 13-6, 9-7-2013)

8.28.020 Scope.

Unless otherwise indicated, this chapter applies to all persons, agencies, institutions, businesses, or government entities living or located within the "excavation control district" except for sources exempt from local government regulation under 75-2-301(5), MCA.

(Ord. No. 13-6, 9-7-2013)

8.28.030 Definitions.

As used in this chapter, unless indicated otherwise, the following definitions apply:

"Applicant" means a property owner or applicant representing a property owner who has filed an application for an "excavation and dirt-moving permit."

"Best management practices (BMPs)" means schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the migration of contamination from a site or project.

"Butte Priority Soils Operable Unit or BPSOU" means historic mining areas within and near municipalities of Butte and Walkerville, surface water, and alluvial groundwater associated with Silver Bow Creek, as designated on the National Priority List of sites established by the Environmental Protection Agency (EPA) through the Comprehensive Environmental Response Compensation and Liability Act, (CERCLA). A map of this area is on file in the BSB clerk and recorder's office.

"Butte-Silver Bow (BSB)" means the local government of the city-county of Butte-Silver Bow, Montana.

"Cap or capped" means an impervious or soil cover that minimizes the migration of contaminated soil or contamination.

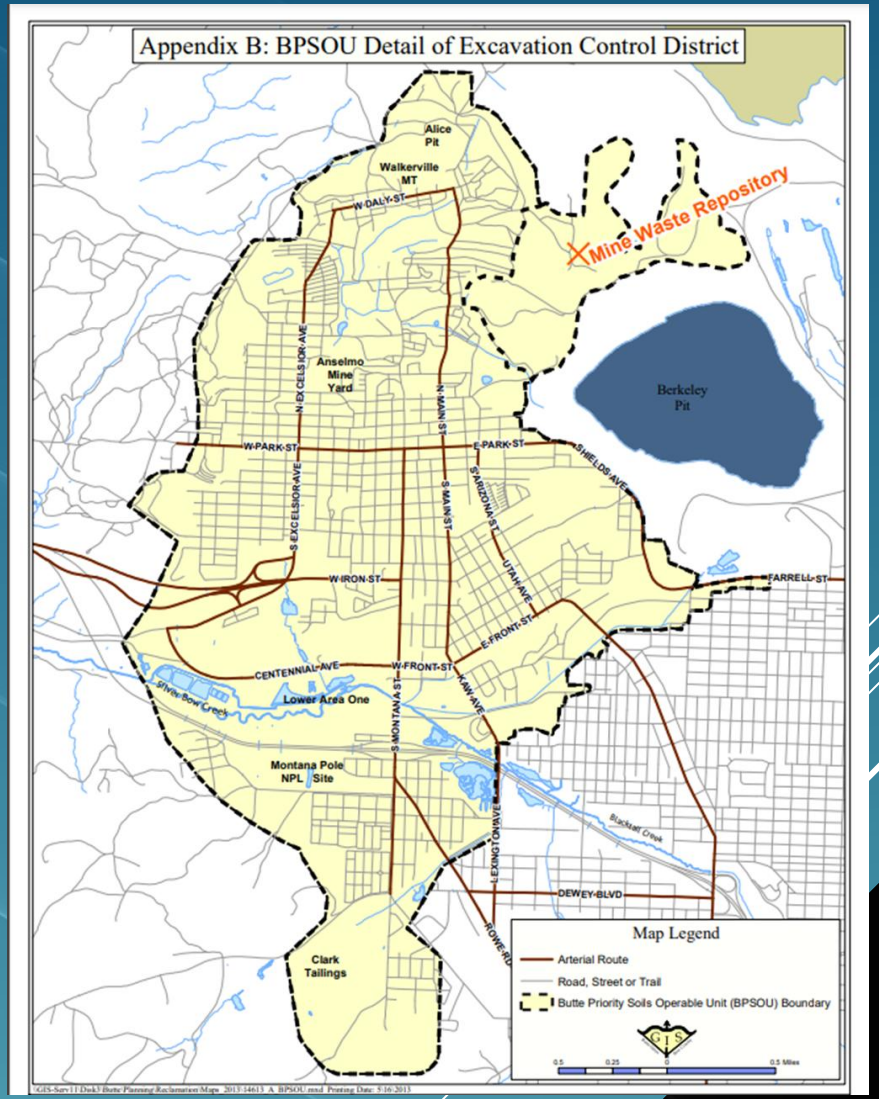
"Contaminant of concern" means lead, arsenic or mercury exceeding EPA standards for clean-up action, as well as copper or zinc which is located in areas capped under the Superfund program.

"Contaminated soils or contamination" means soil containing contaminants of concern exceeding EPA action levels for residential, commercial, industrial, or open space and recreation areas. Action levels are:

A. Residential — Exceeding one thousand two hundred parts per million for lead; exceeding two hundred fifty parts per million for arsenic; exceeding one hundred forty-seven parts per million for mercury.

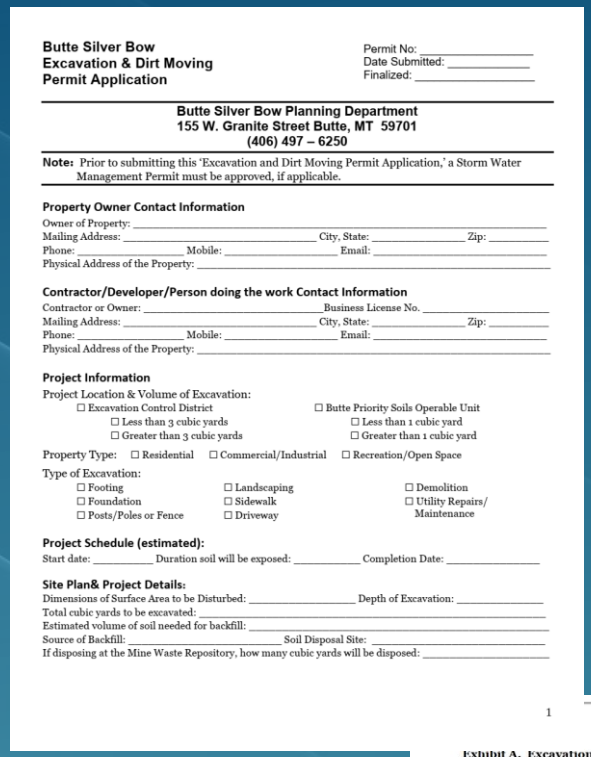
SILVER BOW CREEK/BUTTE AREA SUPERFUND SITE
Butte City, Silver Bow County, MT

- Excavation Ordinance:
  - Creates an "excavation control district"
  - Applies to all within the district, except:
    - Approved EPA/state remedial actions
    - Agricultural activities
    - Production, harvesting, logging of timber
    - Utility emergencies
    - Emergency land management practices (fires, floods, windstorms, earthquakes)
    - Soil volumes less than 1 cubic yard



SILVER BOW CREEK/BUTTE AREA SUPERFUND SITE
Butte City, Silver Bow County, MT

- Excavation Ordinance:
  - No "excavation and dirt-moving activity", or building, grading or land development permit without a permit
  - 3-5 day processing of applications
  - Permit application must show compliance with established "excavation and dirt-moving" protocols
    - On-site handling/off-site disposal
    - Dust control
    - Revegetation



Butte Silver Bow
Excavation & Dirt Moving
Permit Application

Permit No: _____
Date Submitted: _____
Finalized: _____

Butte Silver Bow Planning Department
155 W. Granite Street Butte, MT 59701
(406) 497 – 6250

Note: Prior to submitting this 'Excavation and Dirt Moving Permit Application,' a Storm Water Management Permit must be approved, if applicable.

Property Owner Contact Information
Owner of Property: _____
Mailing Address: _____ City, State: _____ Zip: _____
Phone: _____ Mobile: _____ Email: _____
Physical Address of the Property: _____

Contractor/Developer/Person doing the work Contact Information
Contractor or Owner: _____ Business License No. _____
Mailing Address: _____ City, State: _____ Zip: _____
Phone: _____ Mobile: _____ Email: _____
Physical Address of the Property: _____

Project Information
Project Location & Volume of Excavation:
☐ Excavation Control District
☐ Less than 3 cubic yards
☐ Greater than 3 cubic yards
☐ Butte Priority Soils Operable Unit
☐ Less than 1 cubic yard
☐ Greater than 1 cubic yard

Property Type: ☐ Residential ☐ Commercial/Industrial ☐ Recreation/Open Space

Type of Excavation:
☐ Footing ☐ Foundation ☐ Posts/Poles or Fence
☐ Landscaping ☐ Sidewalk ☐ Driveway
☐ Demolition ☐ Utility Repairs/ Maintenance

Project Schedule (estimated):
Start date: _____ Duration soil will be exposed: _____ Completion Date: _____

Site Plan& Project Details:
Dimensions of Surface Area to be Disturbed: _____ Depth of Excavation: _____
Total cubic yards to be excavated: _____
Estimated volume of soil needed for backfill: _____
Source of Backfill: _____ Soil Disposal Site: _____
If disposing at the Mine Waste Repository, how many cubic yards will be disposed: _____

1

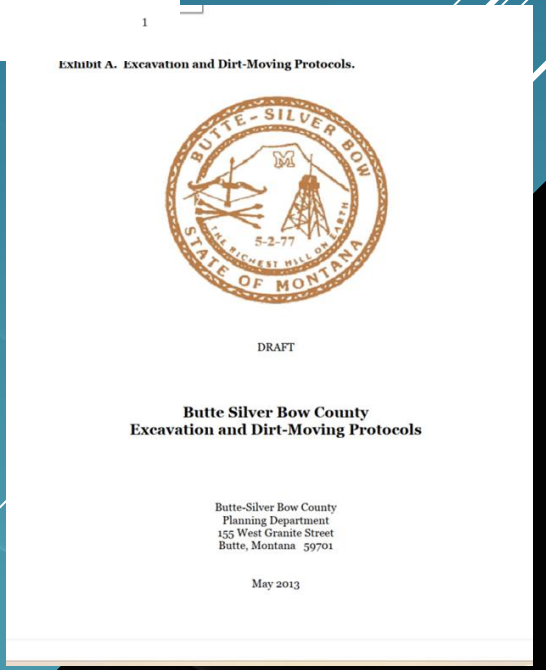


Exhibit A. Excavation and Dirt-Moving Protocols.

DRAFT

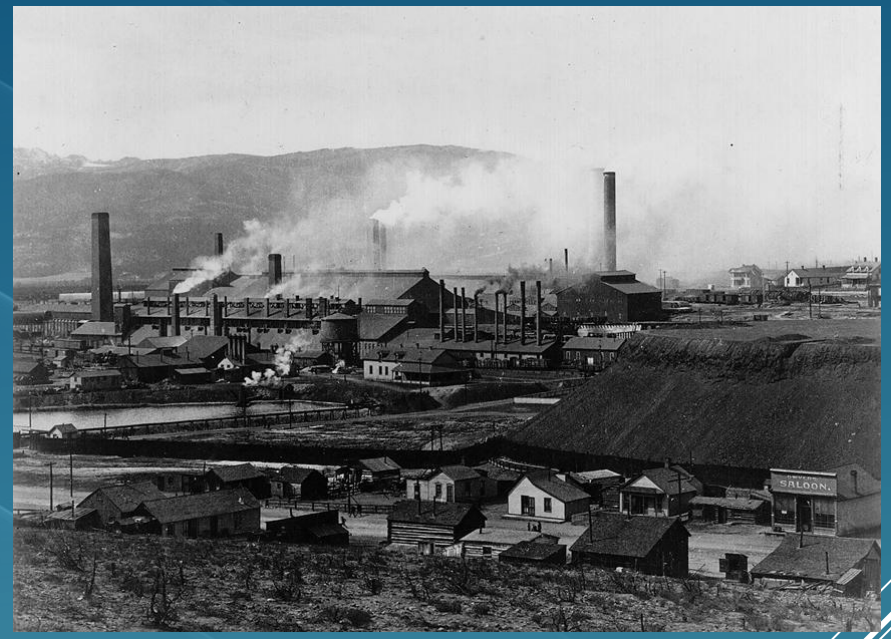
Butte Silver Bow County
Excavation and Dirt-Moving Protocols

Butte-Silver Bow County
Planning Department
155 West Granite Street
Butte, Montana 59701

May 2013

CALIFORNIA GULCH SUPERFUND SITE, Leadville, Lake County, CO

- Former mining, milling, smelting facilities in and about Leadville, CO
- Superfund site consists of 18 square miles of the Upper Arkansas River watershed
- Site is divided into multiple OUs, including OU-9 covering residential populated areas
- Lead, arsenic and other metals are contaminants of concern

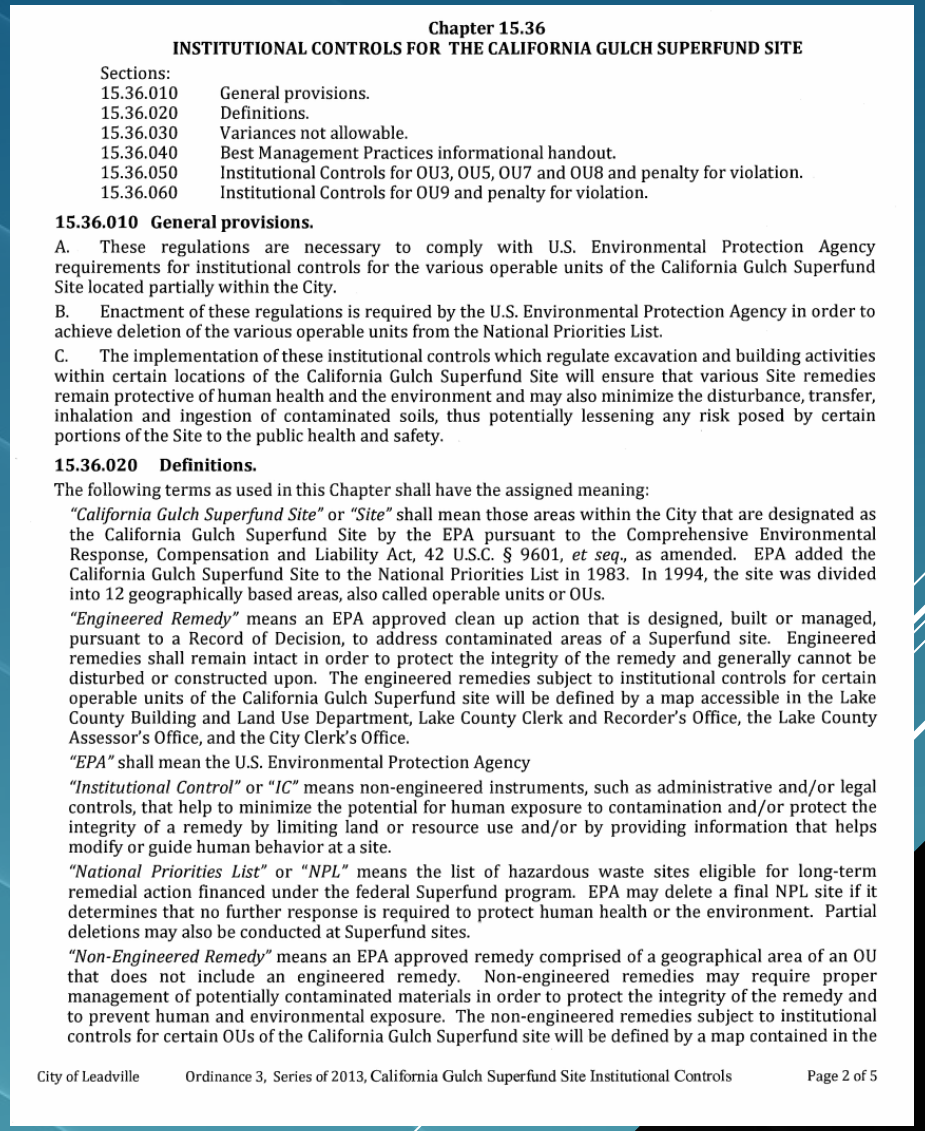


CALIFORNIA GULCH SUPERFUND SITE, Leadville, Lake County, CO

- Reuse/redevelopment has been a center piece of the EPA-directed, local government-supported cleanup effort
  - Paved recreational, historic trails
  - Sports complexes
  - Commercial uses of former industrial facilities
  - Residential uses of cleaned up/capped areas

CALIFORNIA GULCH SUPERFUND SITE, Leadville, Lake County, CO

- Reuse/redevelopment supported by ICs
  - City of Leadville
  - Lake County
- County and City ICs regulate excavation and building activities and are intended to minimize disturbance, transfer, inhalation and ingestion of contaminated soils for protection of public health
  - Prescribes "best management practices"
  - Prohibits any improvement on land, including excavations, without advance written approval from CDPHE



Chapter 15.36
INSTITUTIONAL CONTROLS FOR THE CALIFORNIA GULCH SUPERFUND SITE

Sections:

15.36.010 General provisions.

A. These regulations are necessary to comply with U.S. Environmental Protection Agency requirements for institutional controls for the various operable units of the California Gulch Superfund Site located partially within the City.

B. Enactment of these regulations is required by the U.S. Environmental Protection Agency in order to achieve deletion of the various operable units from the National Priorities List.

C. The implementation of these institutional controls which regulate excavation and building activities within certain locations of the California Gulch Superfund Site will ensure that various Site remedies remain protective of human health and the environment and may also minimize the disturbance, transfer, inhalation and ingestion of contaminated soils, thus potentially lessening any risk posed by certain portions of the Site to the public health and safety.

15.36.020 Definitions.

The following terms as used in this Chapter shall have the assigned meaning:

"California Gulch Superfund Site" or *"Site"* shall mean those areas within the City that are designated as the California Gulch Superfund Site by the EPA pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601, *et seq.*, as amended. EPA added the California Gulch Superfund Site to the National Priorities List in 1983. In 1994, the site was divided into 12 geographically based areas, also called operable units or OUs.

"Engineered Remedy" means an EPA approved clean up action that is designed, built or managed, pursuant to a Record of Decision, to address contaminated areas of a Superfund site. Engineered remedies shall remain intact in order to protect the integrity of the remedy and generally cannot be disturbed or constructed upon. The engineered remedies subject to institutional controls for certain operable units of the California Gulch Superfund site will be defined by a map accessible in the Lake County Building and Land Use Department, Lake County Clerk and Recorder's Office, the Lake County Assessor's Office, and the City Clerk's Office.

"EPA" shall mean the U.S. Environmental Protection Agency

"Institutional Control" or *"IC"* means non-engineered instruments, such as administrative and/or legal controls, that help to minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land or resource use and/or by providing information that helps modify or guide human behavior at a site.

"National Priorities List" or *"NPL"* means the list of hazardous waste sites eligible for long-term remedial action financed under the federal Superfund program. EPA may delete a final NPL site if it determines that no further response is required to protect human health or the environment. Partial deletions may also be conducted at Superfund sites.

"Non-Engineered Remedy" means an EPA approved remedy comprised of a geographical area of an OU that does not include an engineered remedy. Non-engineered remedies may require proper management of potentially contaminated materials in order to protect the integrity of the remedy and to prevent human and environmental exposure. The non-engineered remedies subject to institutional controls for certain OUs of the California Gulch Superfund site will be defined by a map contained in the

SUMMARY | REUSE & PUBLIC HEALTH

- Identify ECs [EPA] and corresponding ICs [Town, with EPA]
- Define “districts” and “zones” for redevelopment, land use restriction(s), and permitting requirements (ICs) necessary to maintain ECs and ensure public health [Town]
- Develop and implement land use ordinances, including zoning, permitting, and development [Town]
- Identify redevelopment options that can be constructed and approved
- Enforce Ordinances to secure ICs and ensure public health