

Figure ES-1: Regional Location Map (Same as Figure 1-1).

12/98 D:\5377\5377-83.DWG

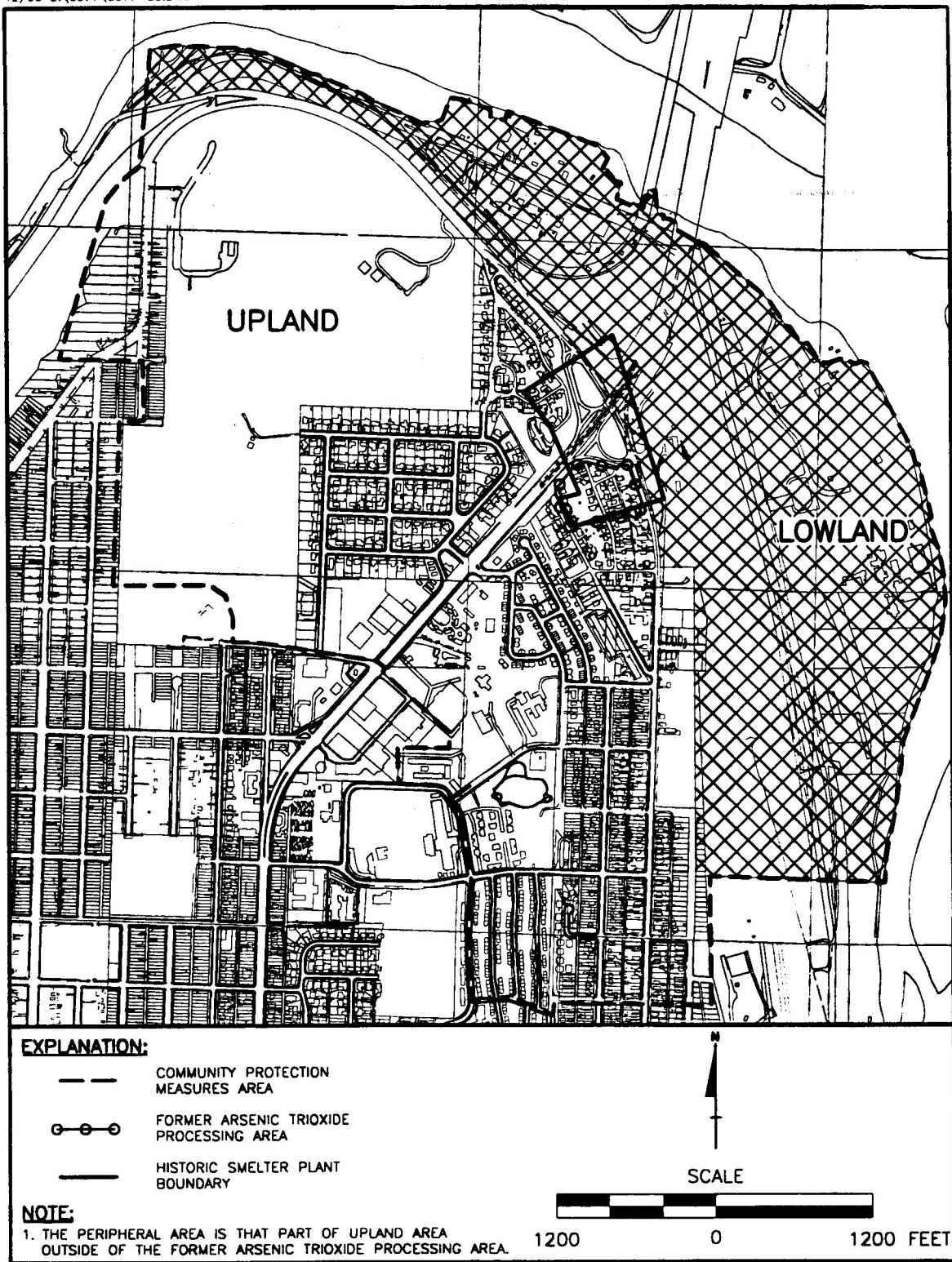


Figure ES-2: Site Features (Same as Figure 1-2).

Depth (in.)	Typical Activities	Qualitative Weight of Concern				Containment Barrier	Performance Standards			
		Low — High	Low — High	Low — High	Low — High		Cleanup Level, Average Conc'ntr't'n	Other Perform'nce Standard, Maximum Conc'ntr't'n	Remediat'n Level, Average Conc'ntr't'n	Remediat'n Level, Maximum Conc'ntr't'n
		Carcinogenicity and Recontaminat'n	Acute Toxicity	Confidence in Institutional Controls	Cost Balancing					
0	Mowing, raking, bio-mixing	Shaded	Shaded			Stippled	20	40	Not Applicable	Not Applicable
6	Kids, pets digging	Shaded	Shaded			Stippled	20	40	Not Applicable	Not Applicable
12	Gardening, general landscaping, tree planting, deck foundations	Shaded	Shaded				20	40	60	150
18		Shaded	Shaded				20	40	60	150
24	Fence posts, Utility Line Installation, Foundations	Shaded	Shaded				20	40	150	500
30		Shaded	Shaded				20	40	150	500
36	Foundations, Tank Removals, Utility Pole Installation	Shaded	Shaded				20	40	150	500
42		Shaded	Shaded				20	40	150	500
48		Shaded	Shaded				20	40	150	500
Below 48"		Shaded	Shaded				20	40	150	500

Performance standards columns show arsenic concentration in mg/Kg and basis for comparison. Exceedances of Remediation Level or Other Performance Standard requires accessible soil in that depth interval be excavated and disposed of in the Consolidation Facility or off-site. Soil with arsenic concentrations between the cleanup level and the remediation level in depth intervals below 12 inches must be contained or removed. Institutional controls and monitoring must continue so long as cleanup levels are exceeded within any depth interval.

Figure ES-3: Selecting Remediation Levels in the Upland Area of the Everett Smelter Site (Same as Figure 6-7).

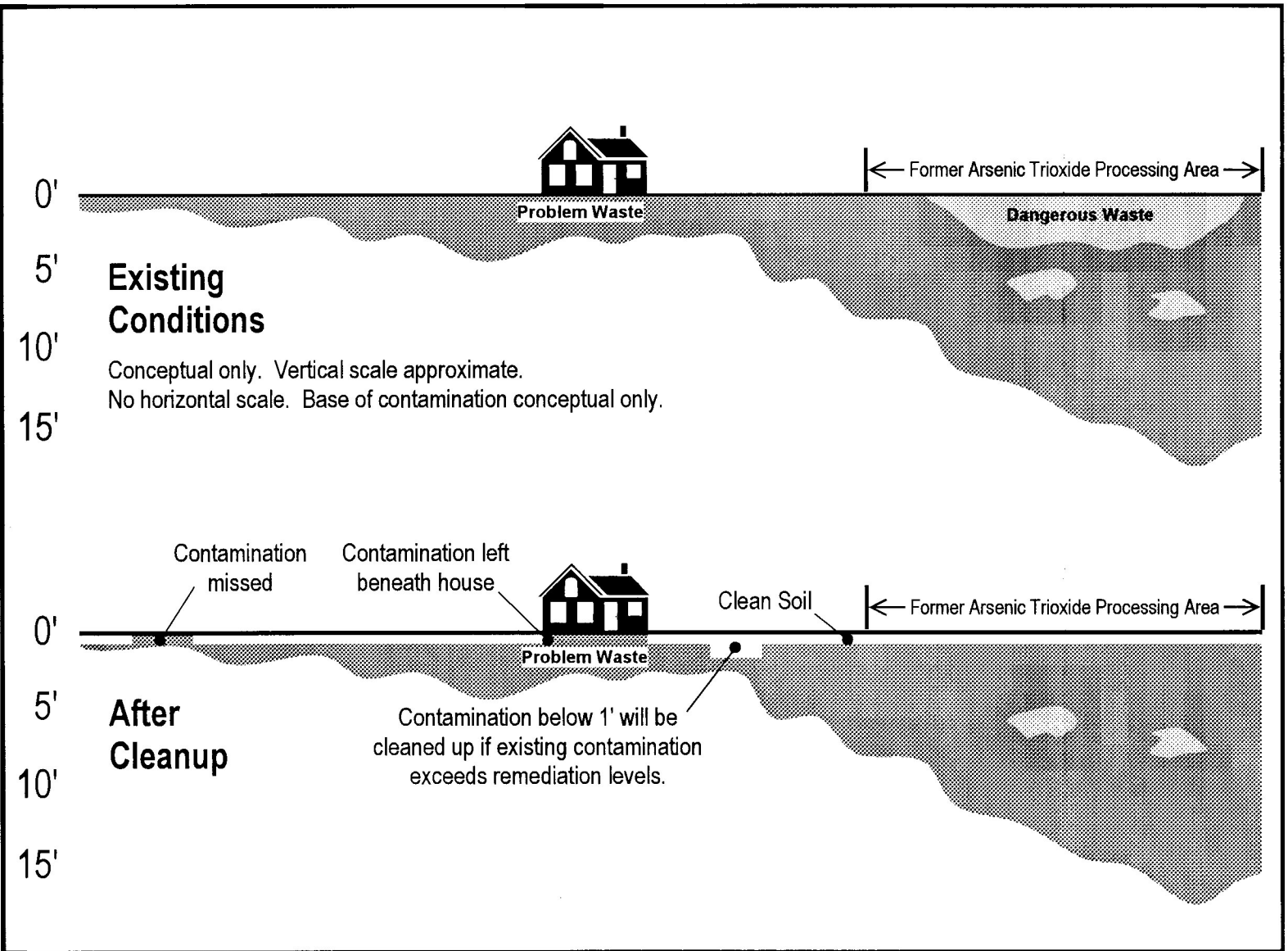


Figure ES-4: Conceptual Sketch of Conditions in the Upland Area of the Everett Smelter Site Before and After Cleanup. (Same as Figure 9-1)



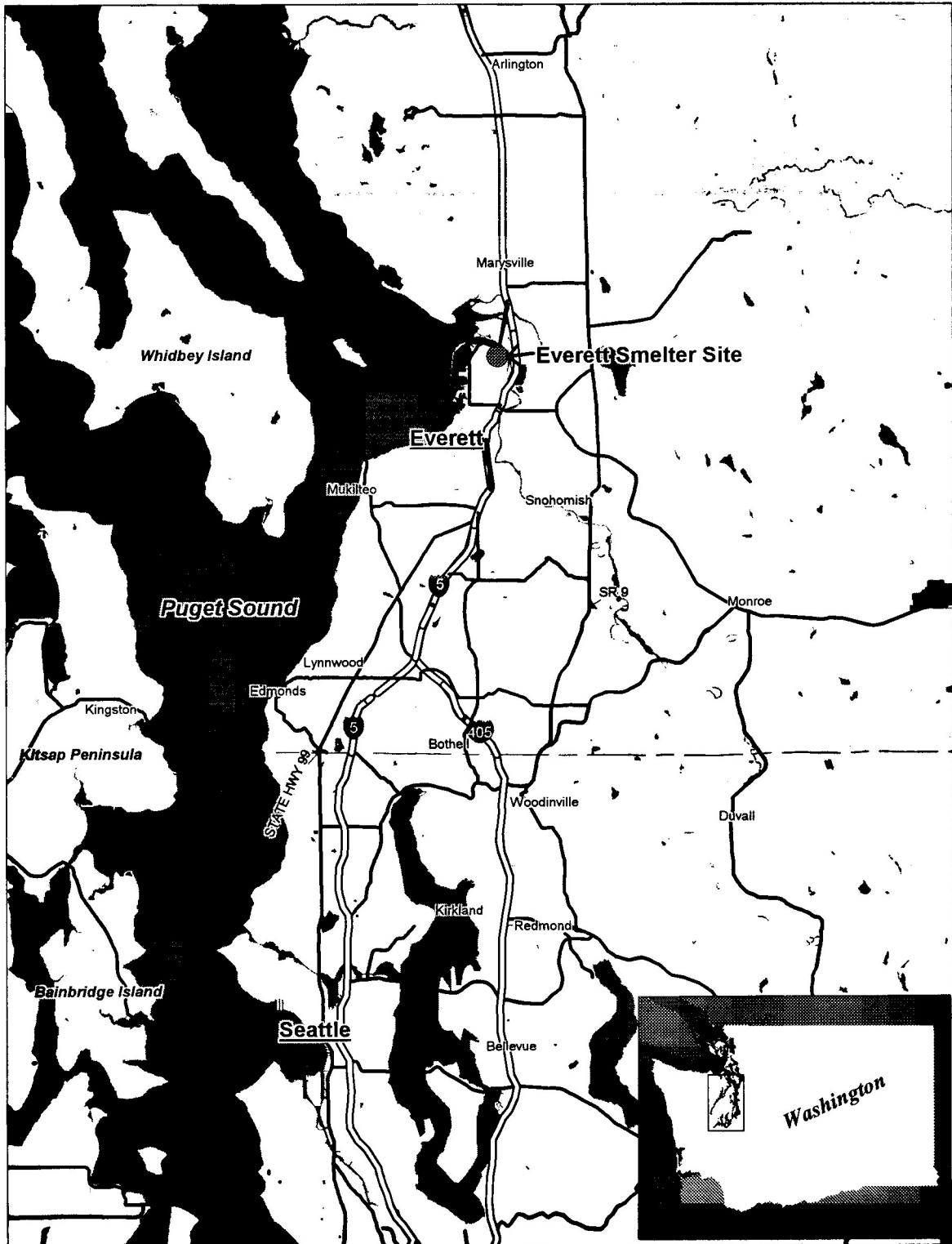


Figure 1-1: Regional Location Map.

12/98 D:\5377\5377-83.DWG

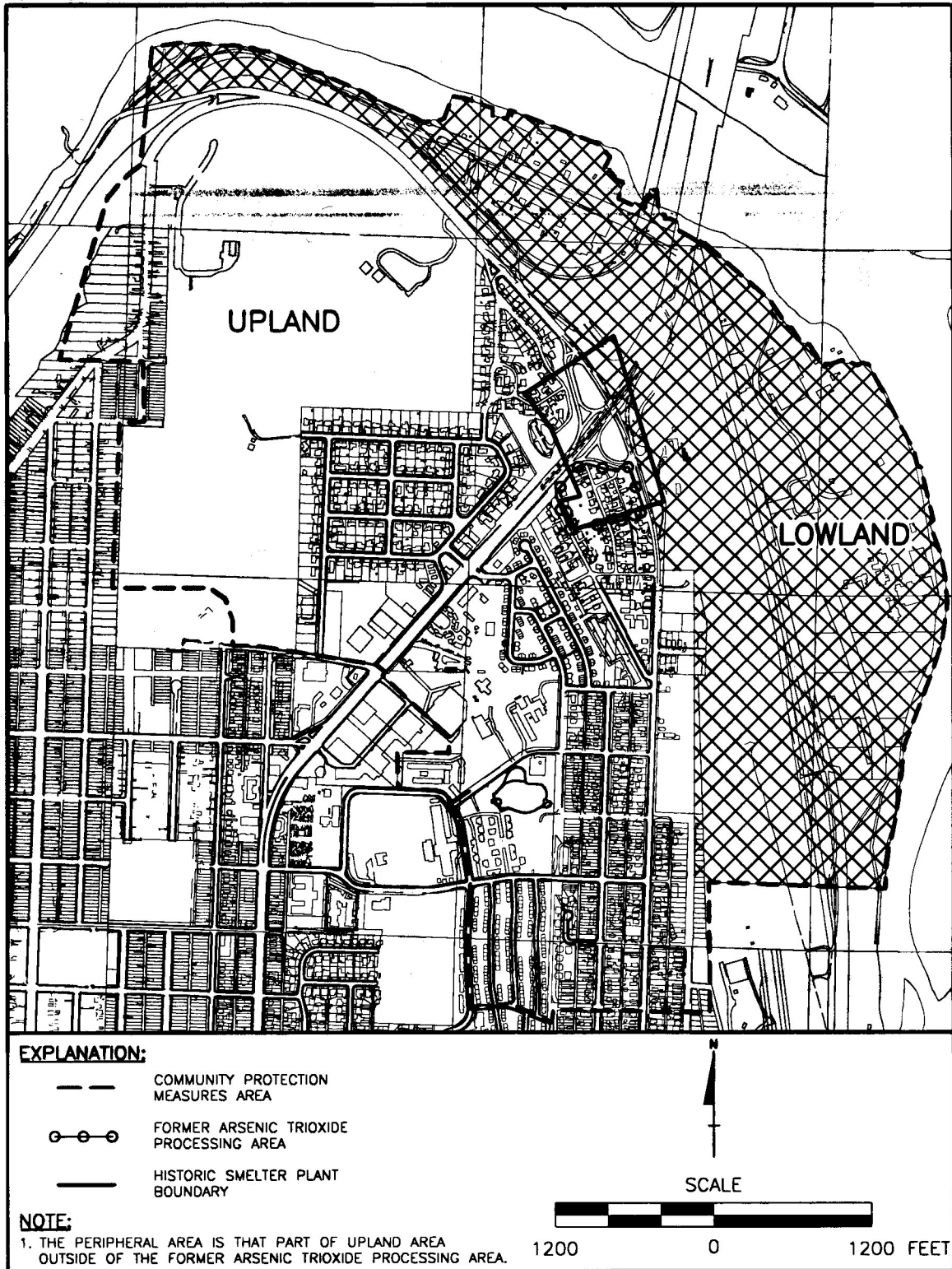


Figure 1-2: Site Features.

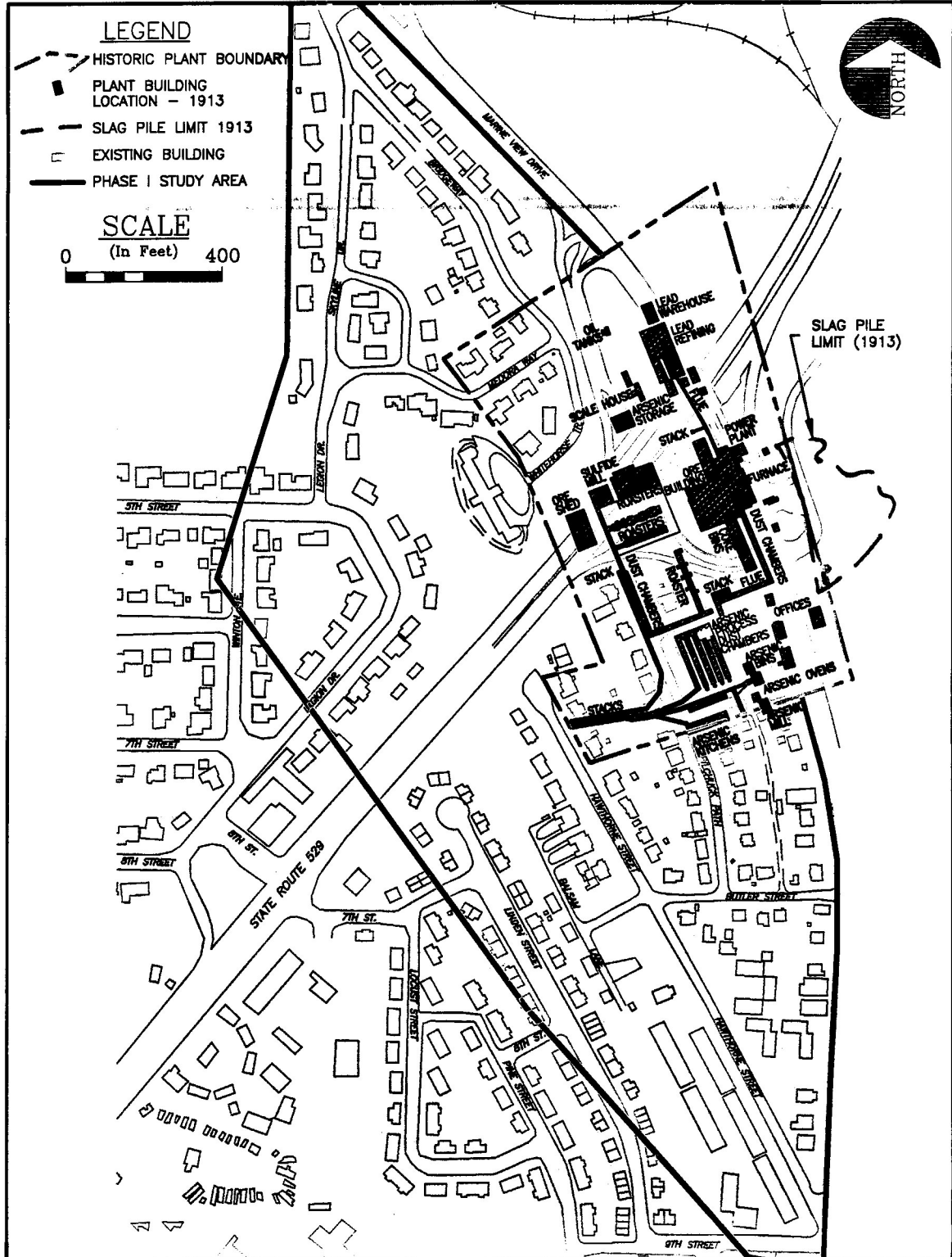


Figure 2-1: Former Smelter Layout.

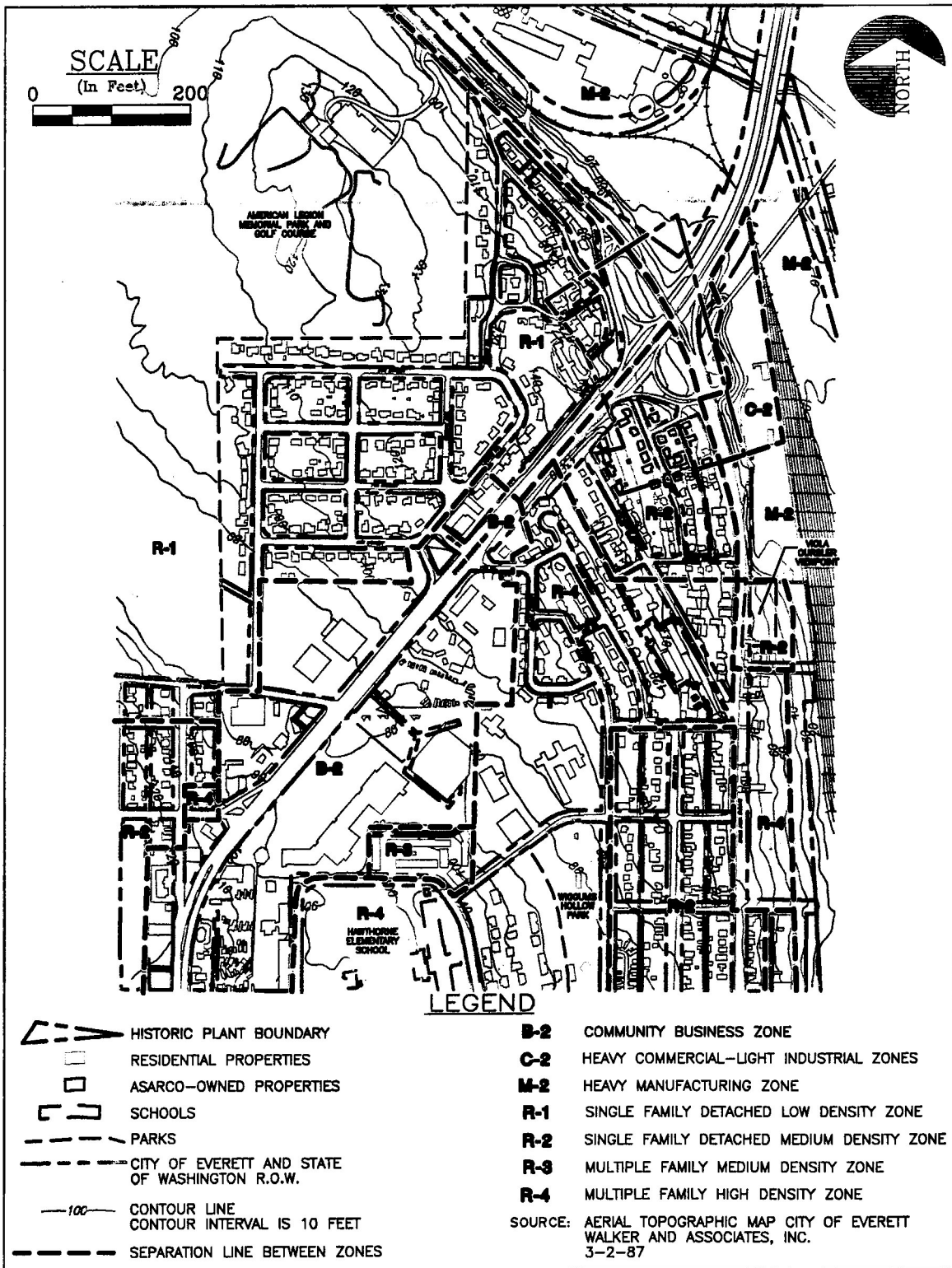


Figure 2-2: Site Zoning.

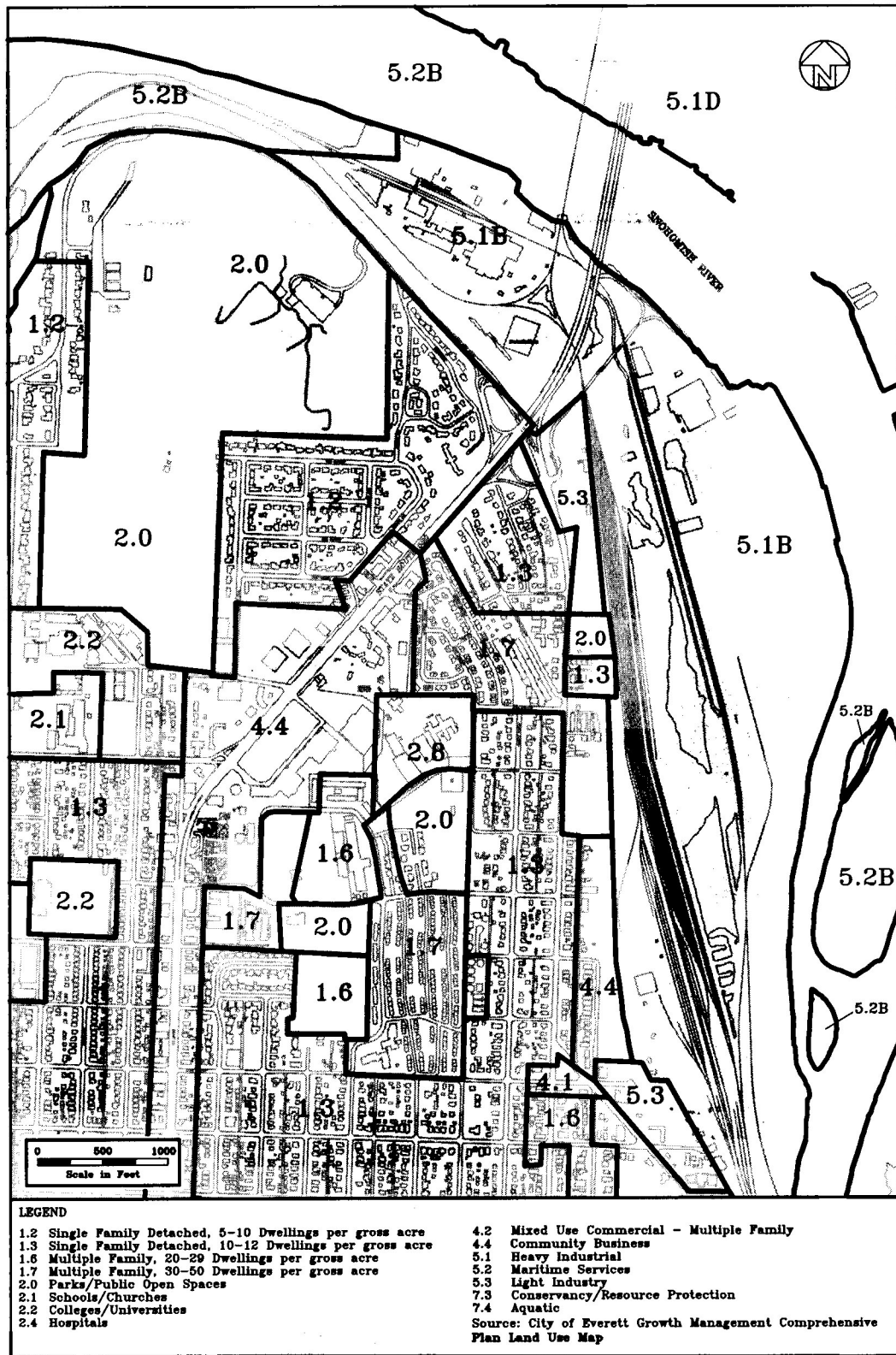


Figure 2-3: Comprehensive Plan Land Use Designations in Project Vicinity.



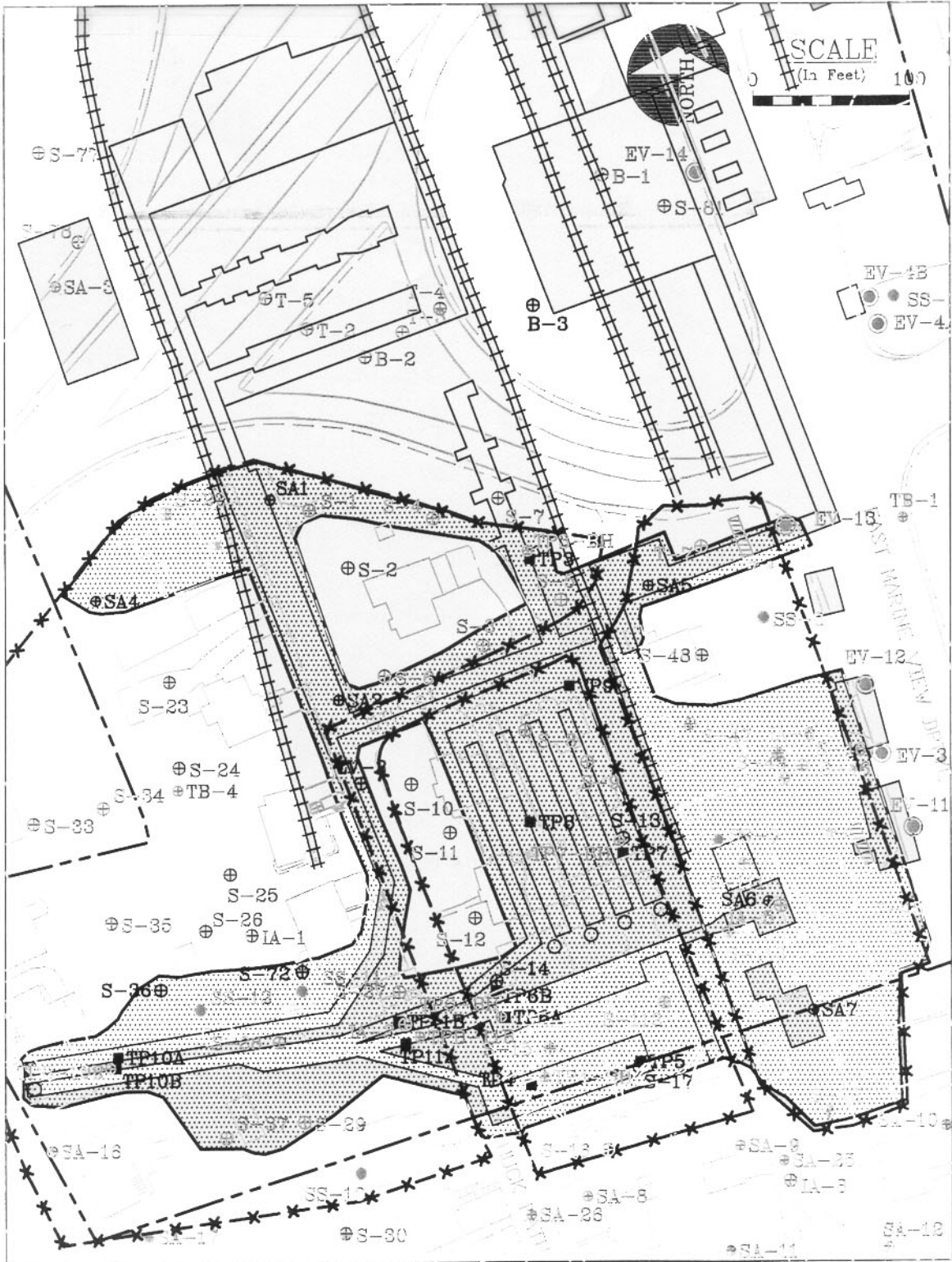


Figure 2-4: Estimated Extent of Smelter Residual Containing Arsenic Trioxide or Flue Dust.

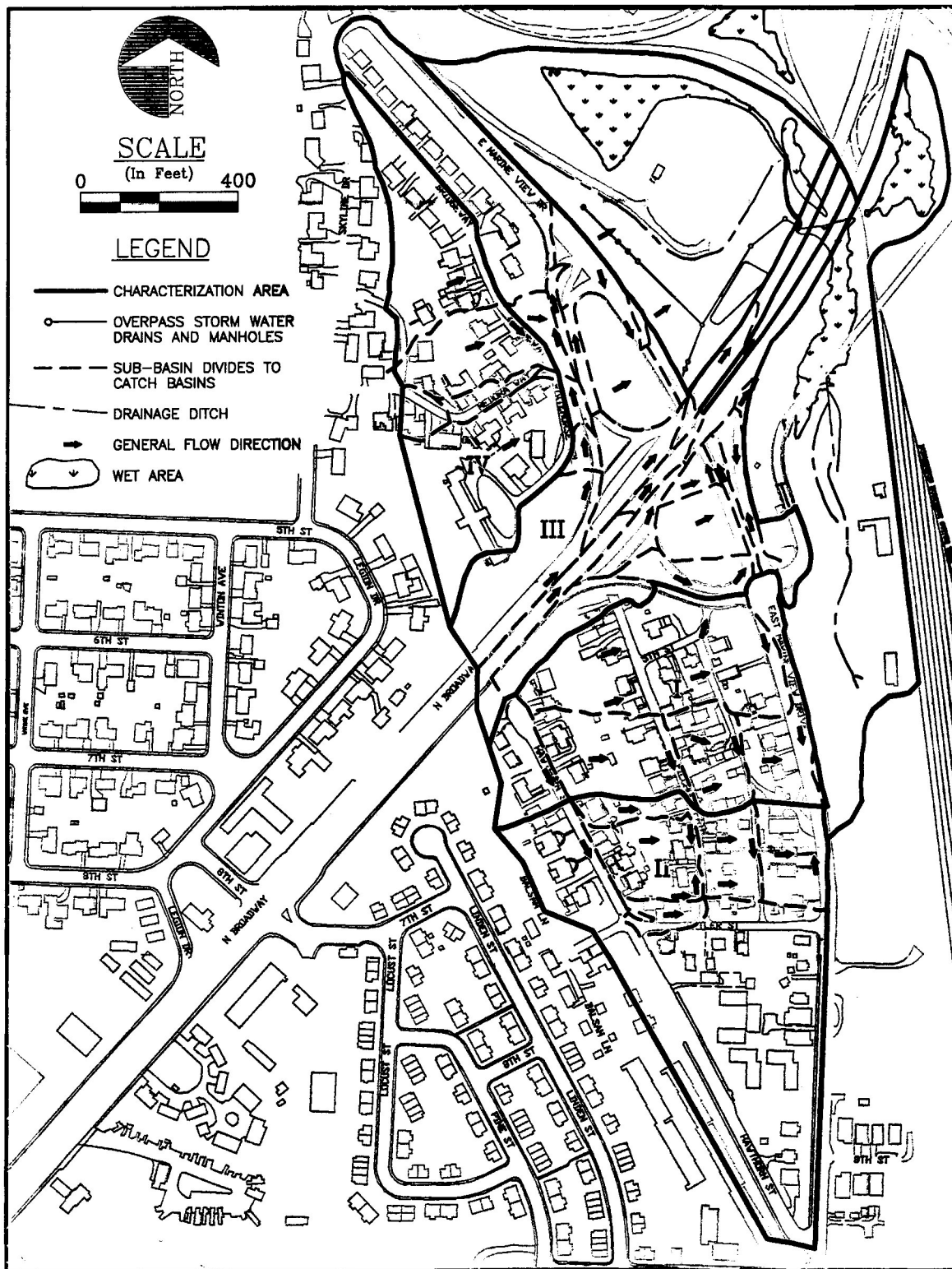


Figure 2-5: Surface Water Runoff Pattern.

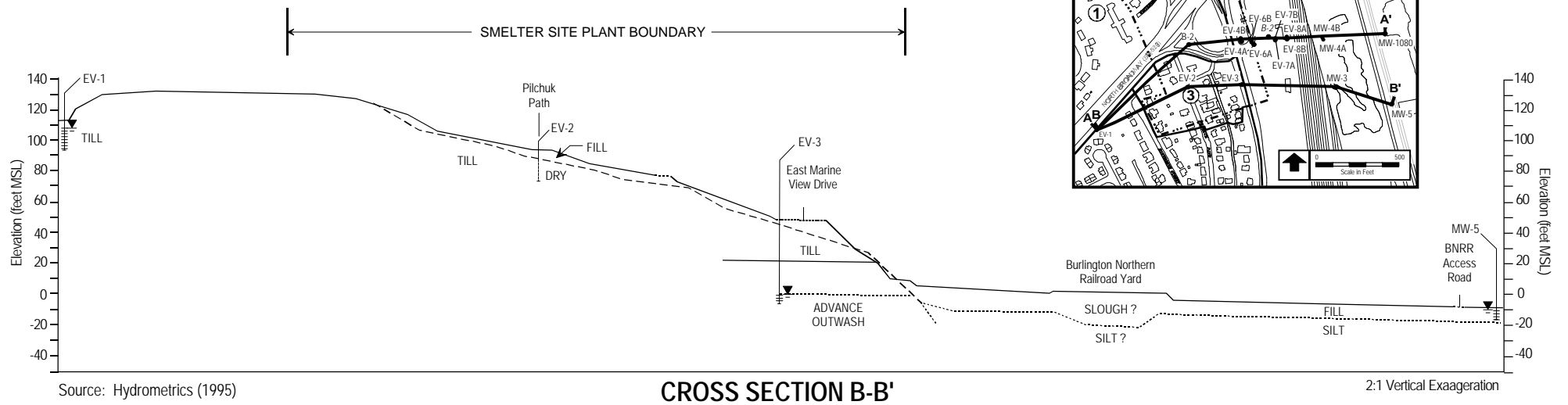
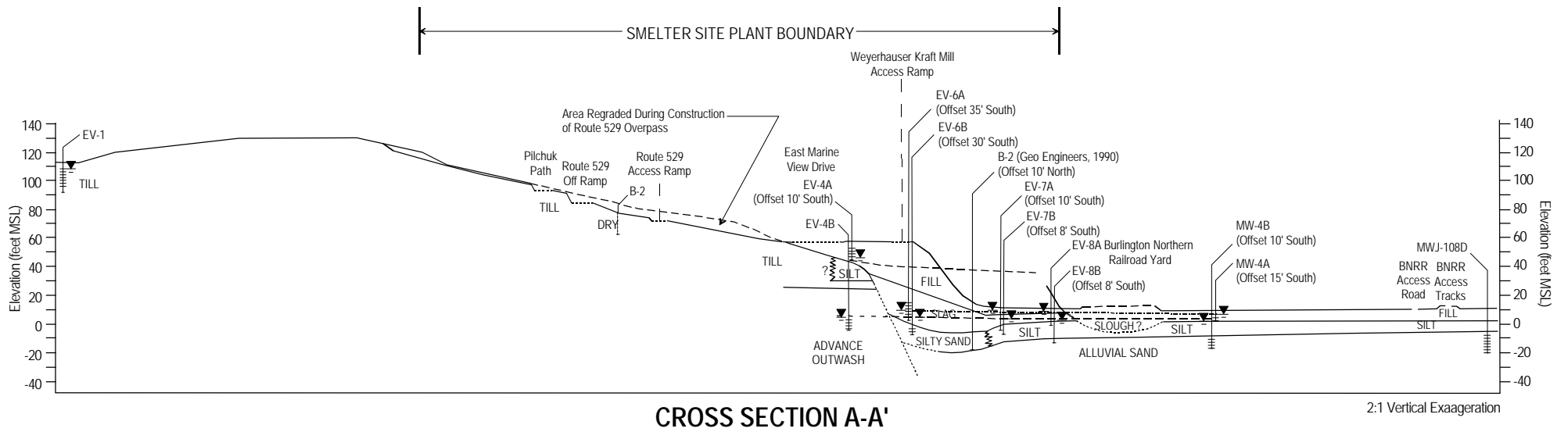


Figure 2-6. Geologic Cross-Sections Through Former Smelter Site.

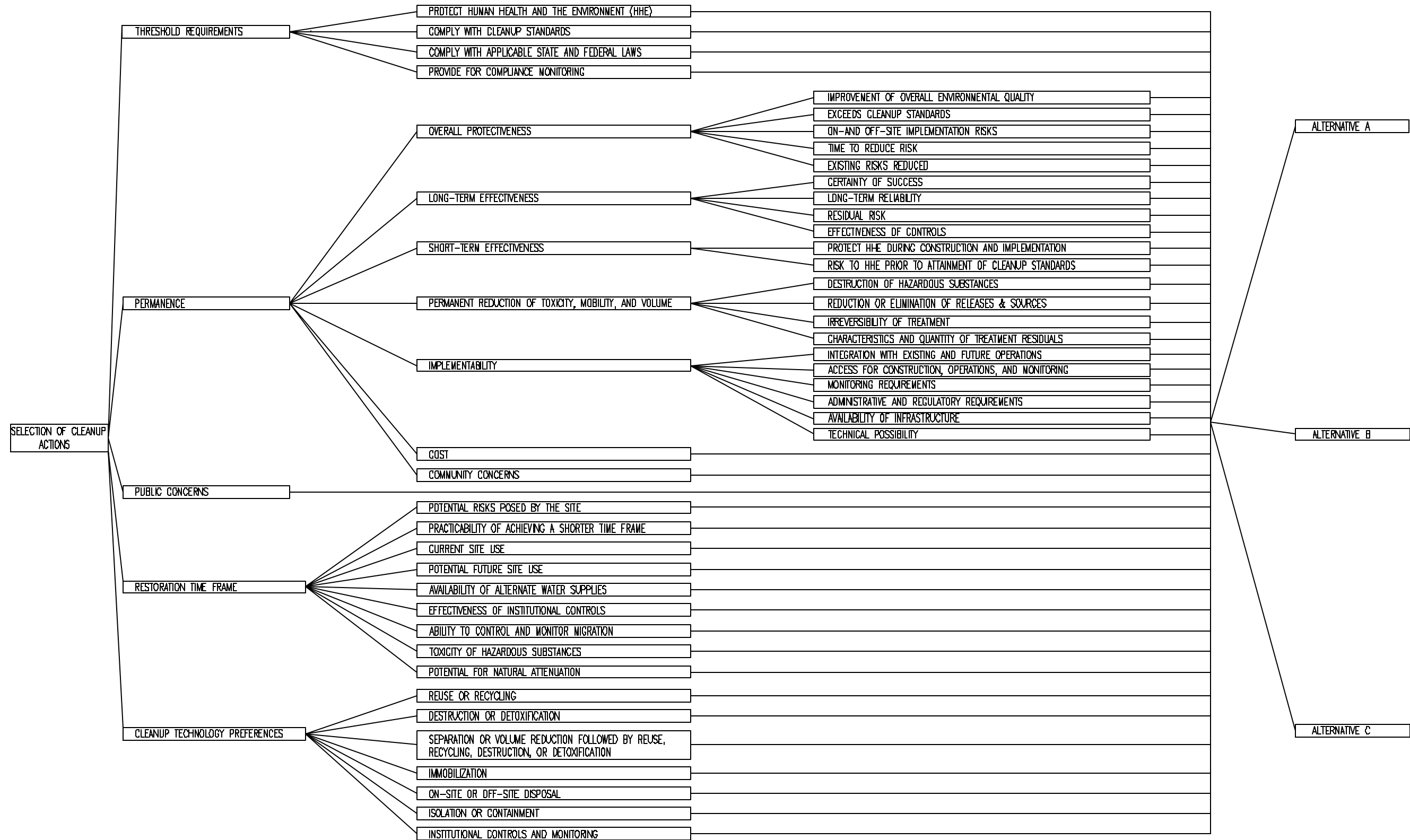
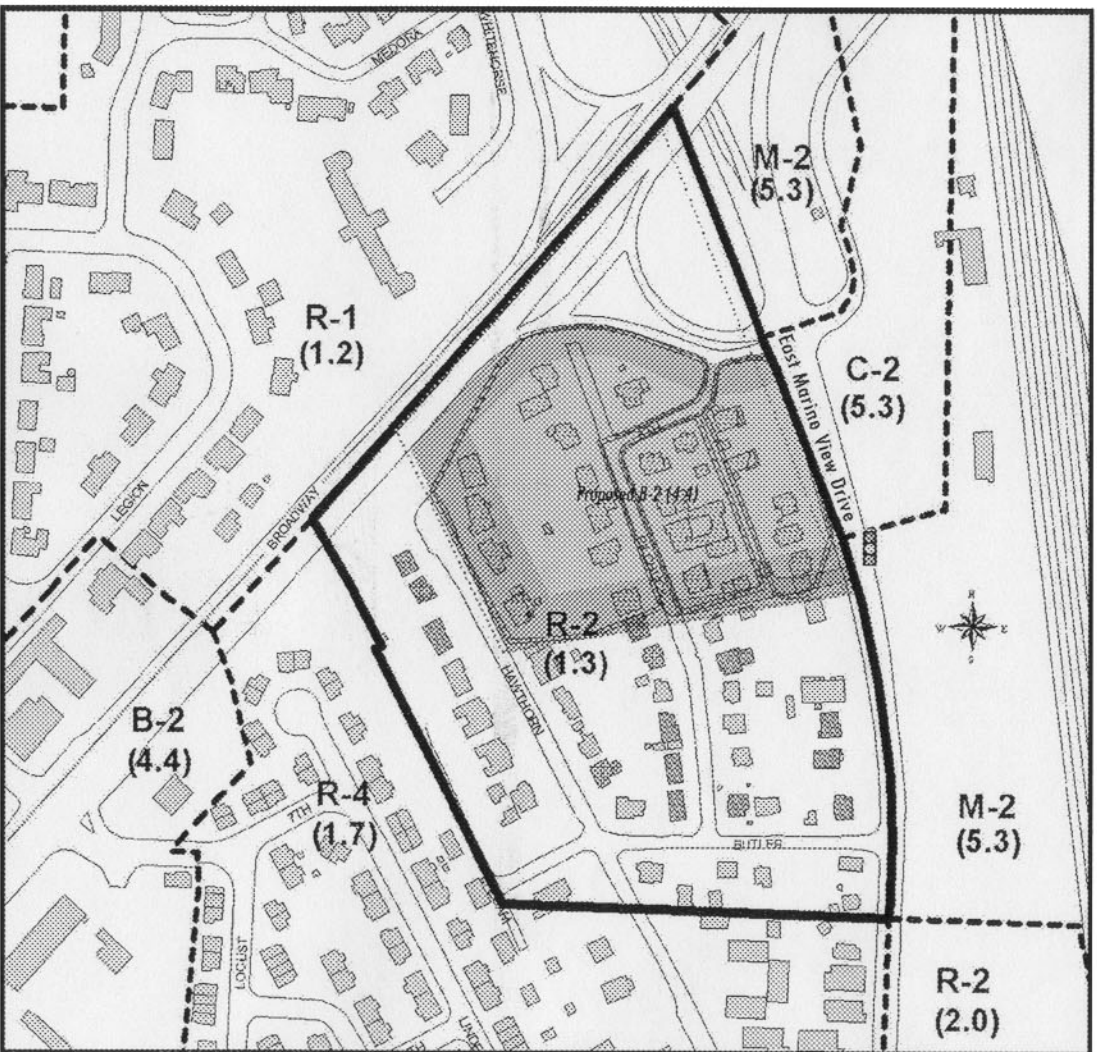


Figure 3-1. Remedy Selection Criteria.

SOURCE: WAC 173-340-360



- Zoning Boundaries
- Affected Zoning Boundary
- - - Proposed Zoning Boundary
- ▨ Landscape Buffer
- Transportation Corridor
- ▨ Proposed Consolidation Facility
- ▨ Proposed Temporary Access

**Existing Zoning Designations**

- R-1 Single family detached low density
- R-2 Single family detached medium density
- R-4 Multiple family high density
- C-2 Heavy commercial—light industrial
- M-2 Heavy manufacturing

**Existing Comp. Plan Designations**

- 1.2 Single family detached, 5-10 DU/acre
- 1.3 Single family detached, 10-12 DU/acre
- 1.7 Multiple family, 30-50 DU/acre
- 2.0 Parks
- 5.3 Light industry

**Proposed Zoning Designations**

- B-2 Community business

**Proposed Comp. Plan Designation**

- 4.4 Mixed use commercial and multi-family residential

**Property Ownership**

- ▨ Removed
- ▨ Privately owned
- ASARCO owned - Rental

0 100' 200' approximate scale

Figure 3-2: Everett Zoning and Comprehensive Plan Designations, Former Arsenic Trioxide Processing Area Only.



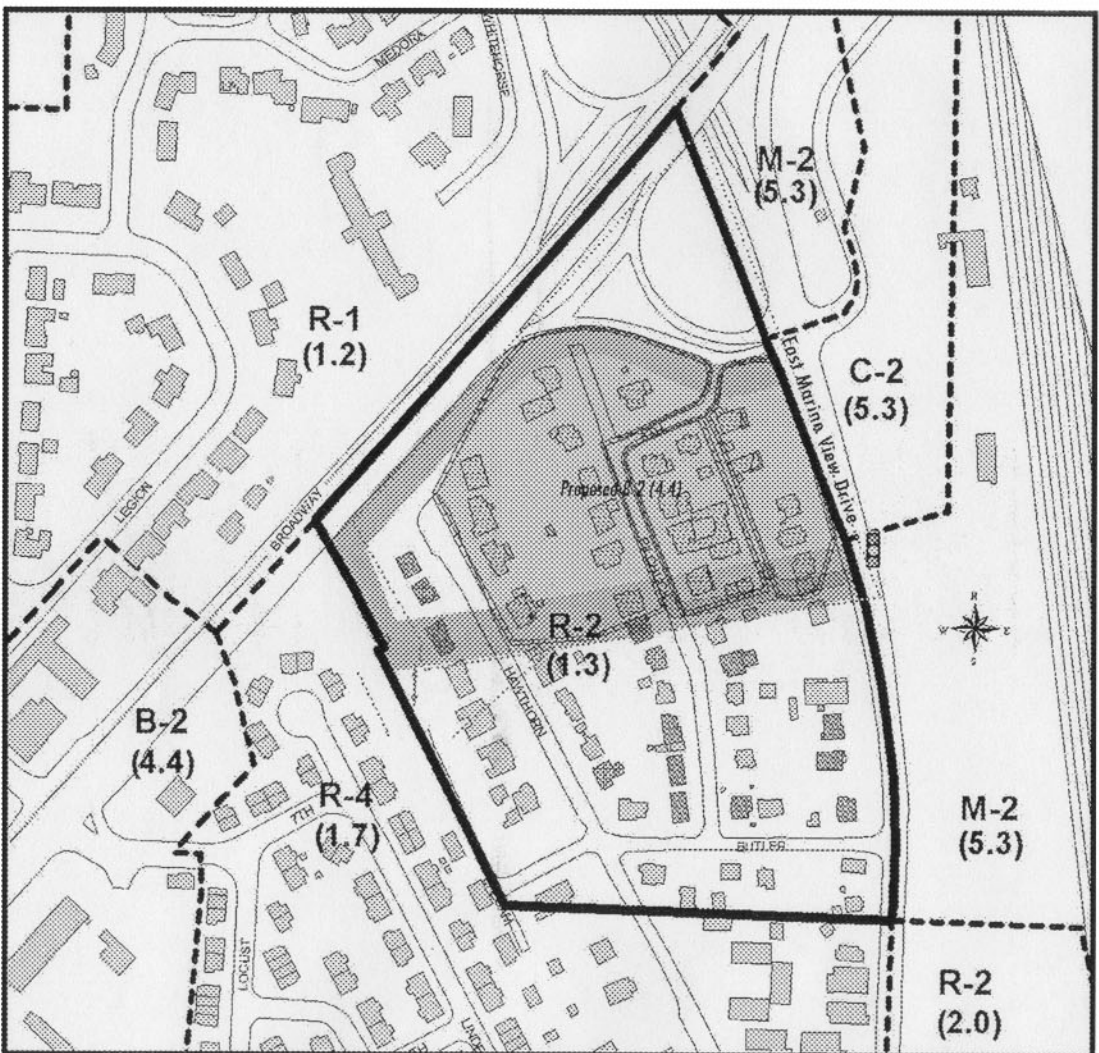


Figure 3-3: Everett Zoning and Comprehensive Plan Designations, Former Arsenic Trioxide Processing Area and Upland Plateau.



- Zoning Boundaries
- Affected Zoning Boundary
- ..... Proposed Zoning Boundary
- ▨ Landscape Buffer
- ▤ Transportation Corridor
- ▧ Proposed Consolidation Facility
- ▩ Proposed Temporary Access

**Existing Zoning Designations**

- R-1 Single family detached low density
- R-2 Single family detached medium density
- R-4 Multiple family high density
- C-2 Heavy commercial—light industrial
- M-2 Heavy manufacturing

**Existing Comp. Plan Designations**

- 1.2 Single family detached, 5-10 DU/acre
- 1.3 Single family detached, 10-12 DU/acre
- 1.7 Multiple family, 30-50 DU/acre
- 2.0 Parks
- 5.3 Light industry

**Proposed Zoning Designations**

- B-2 Community business

**Proposed Comp. Plan Designation**

- 4.4 Mixed use commercial and multi-family residential

**Property Ownership**

- ▨ Removed
- ▧ Privately owned
- ▩ ASARCO owned - Rental
- ASARCO owned - Vacant

0 100' 200' approximate scale

Figure 3-4: Everett Zoning and Comprehensive Plan Designations, Former Arsenic Trioxide Processing Area and Entire R-2 Zone.

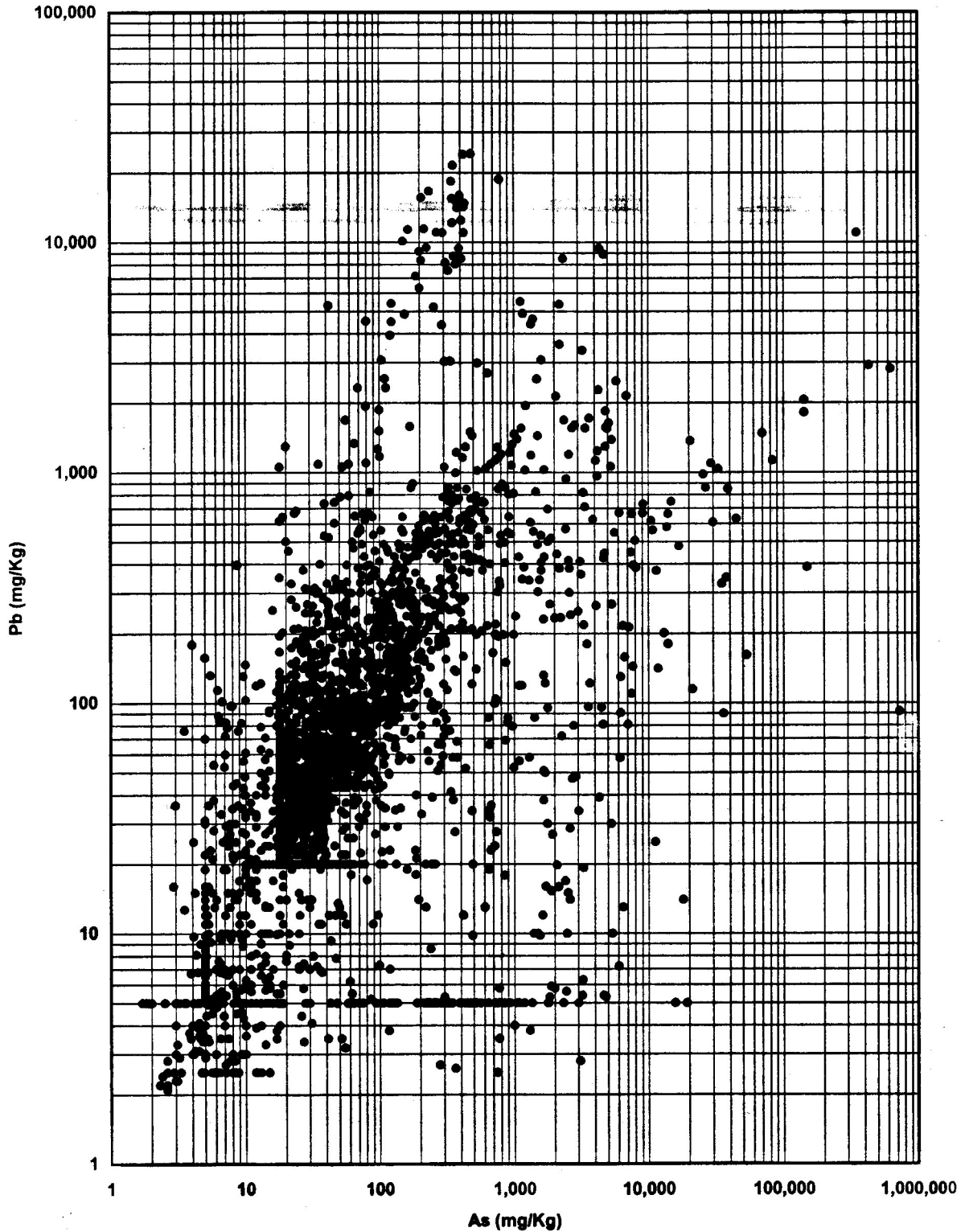


Figure 4-1: Occurrence of Lead Concentrations in Soil with Arsenic Concentrations in Soil.

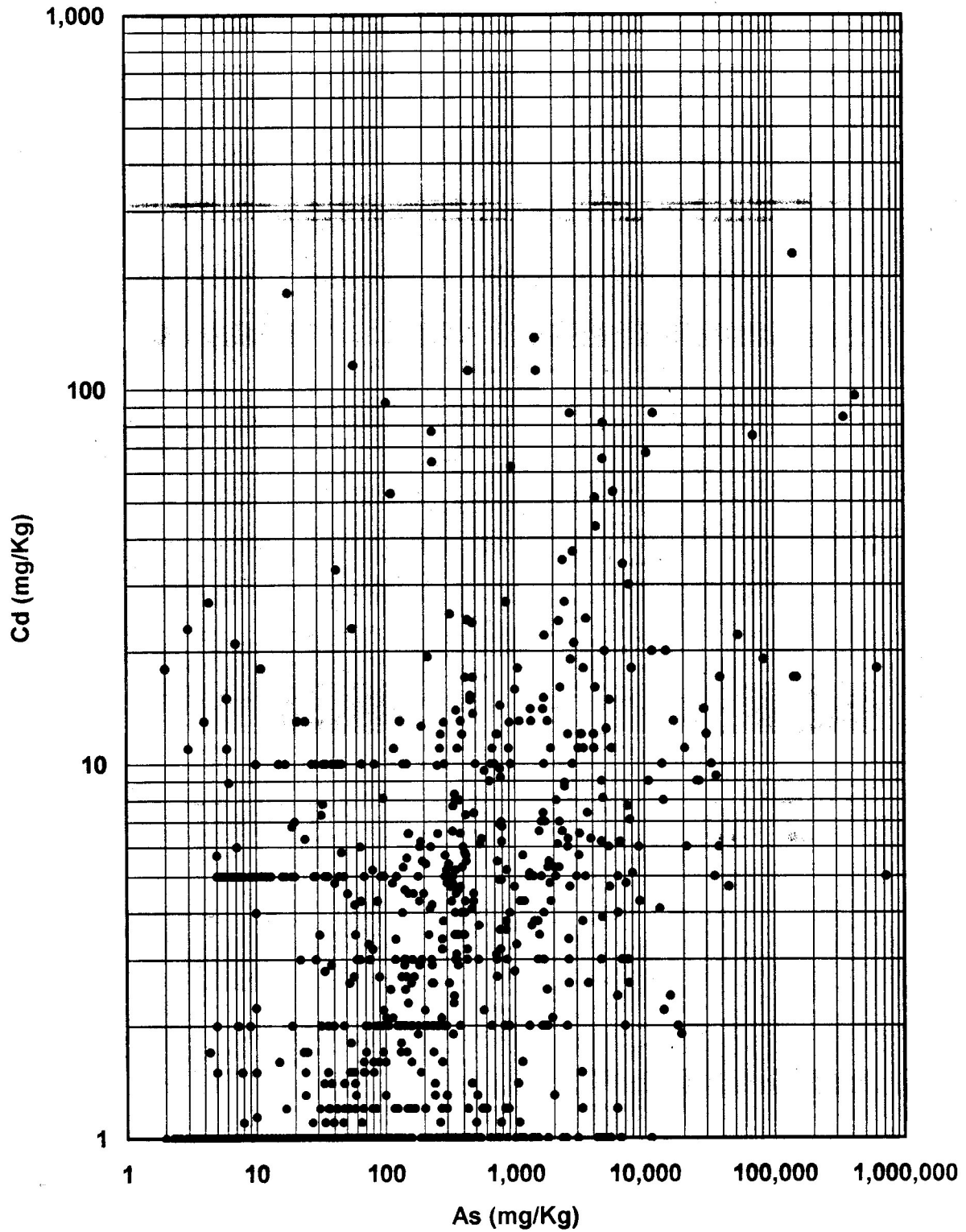


Figure 4-2: Occurrence of Cadmium Concentrations in Soil with Arsenic Concentrations in Soil.

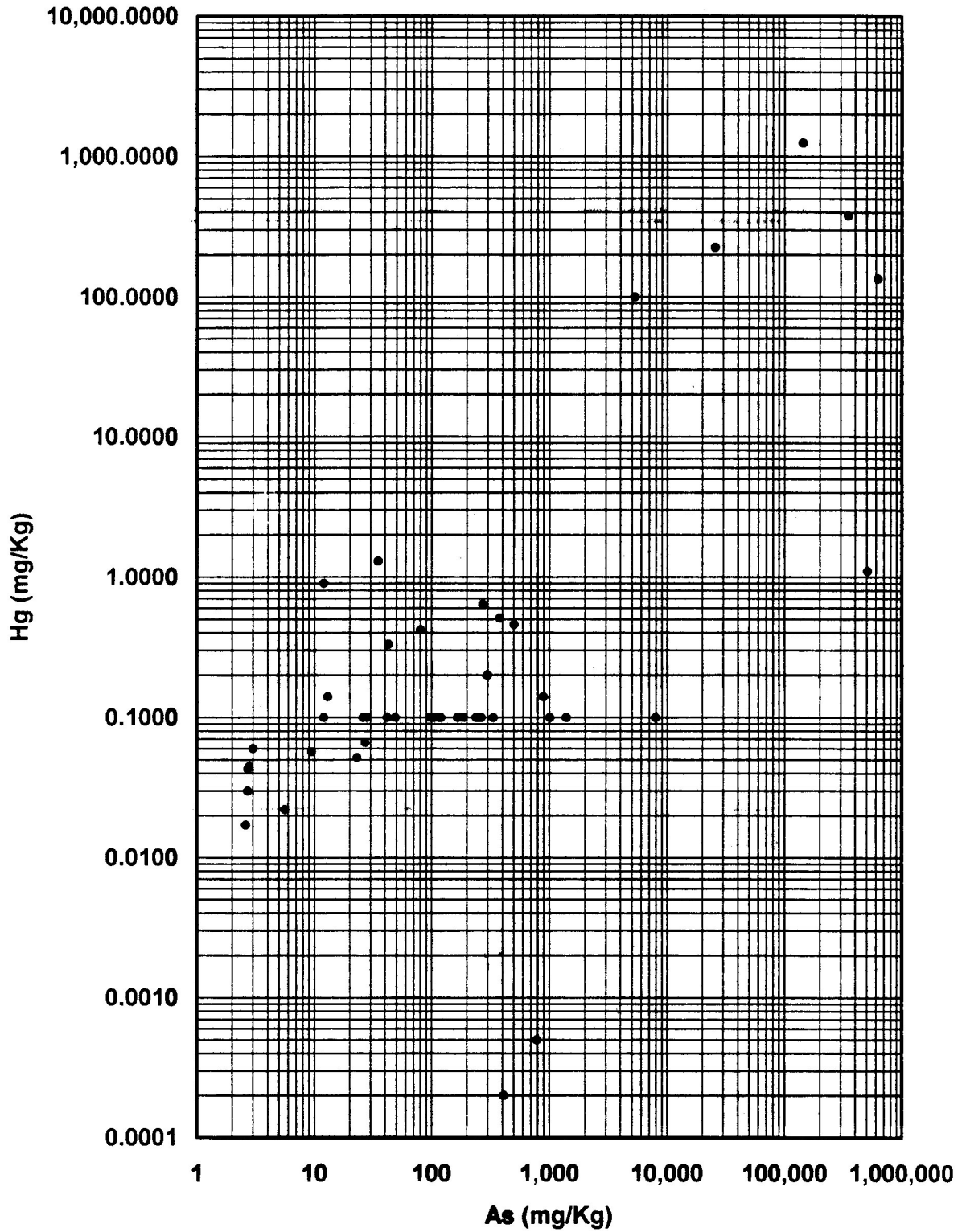


Figure 4-3: Occurrence of Mercury Concentrations in Soil with Arsenic Concentrations in Soil.



### Percent of Soil Volume Exceeding Arsenic Concentrations, 12-18 Inch Depth Interval

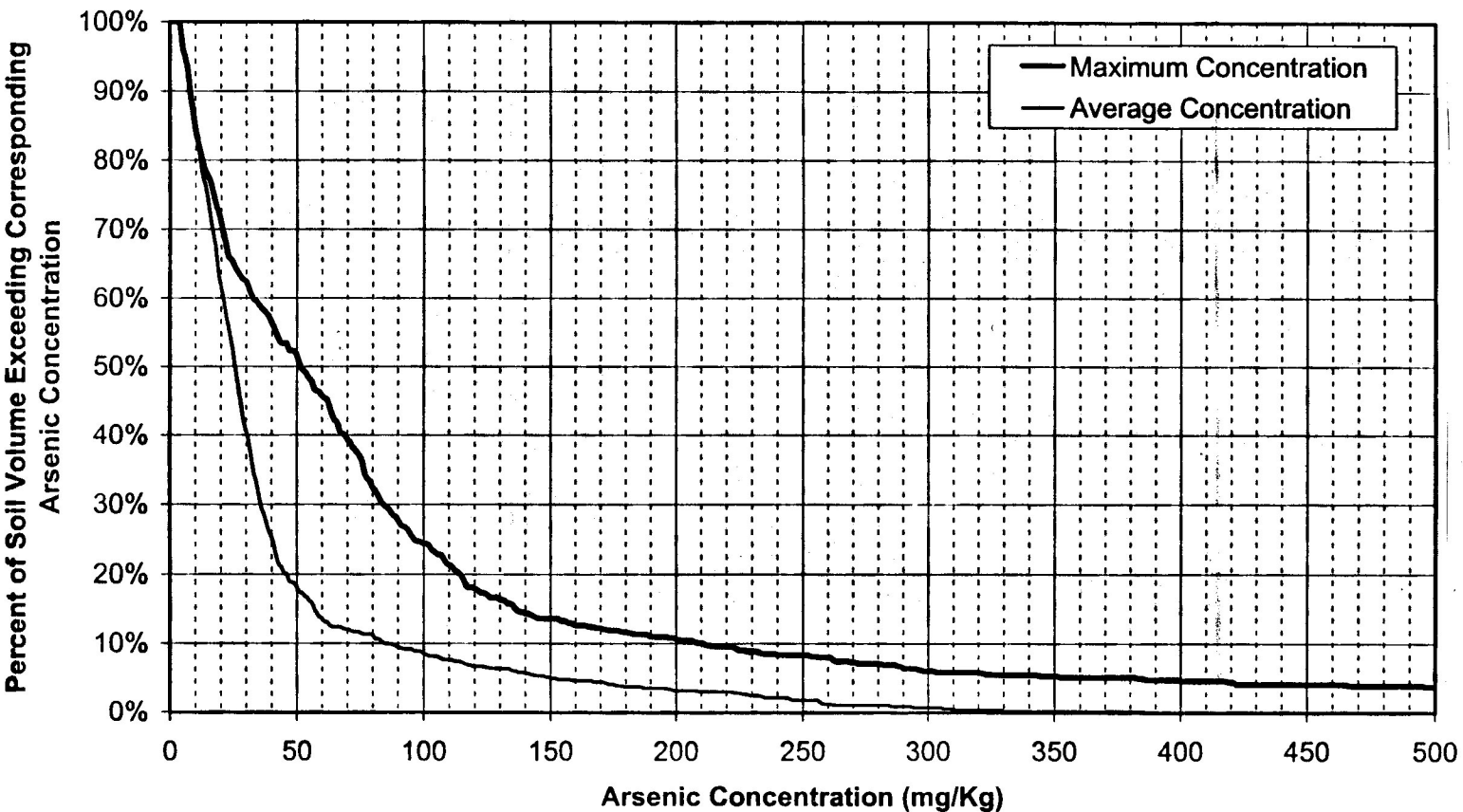


Figure 6-1: Percent of Soil Volume Exceeding Arsenic Concentrations, 12-18 Inch Depth Interval.

### Percent of Soil Volume Exceeding Arsenic Concentrations, 18-24 Inch Depth Interval

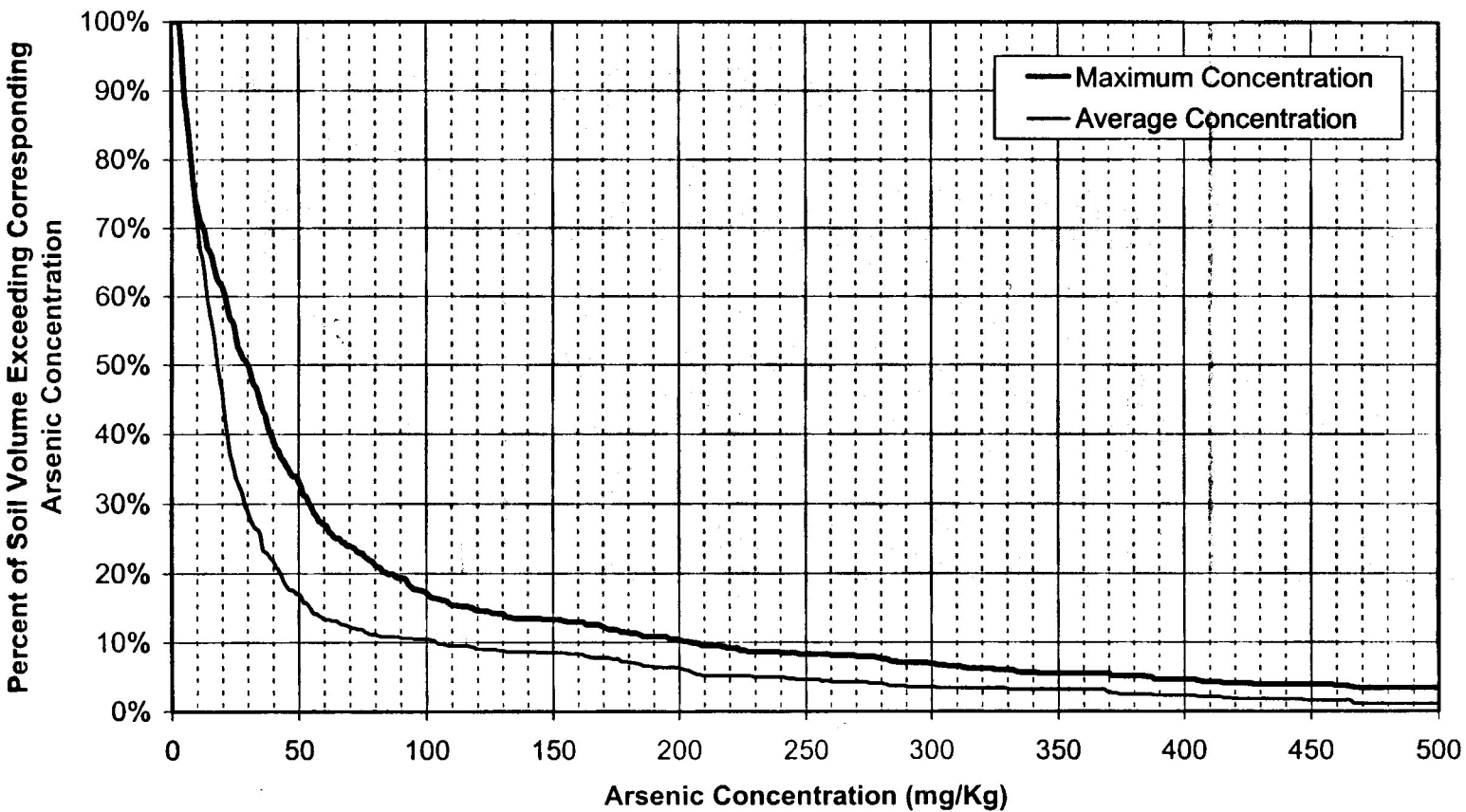


Figure 6-2: Percent of Soil Volume Exceeding Arsenic Concentrations, 18-24 Inch Depth Interval.

### Percent of Soil Volume Exceeding Arsenic Concentrations, 24-30 Inch Depth Interval

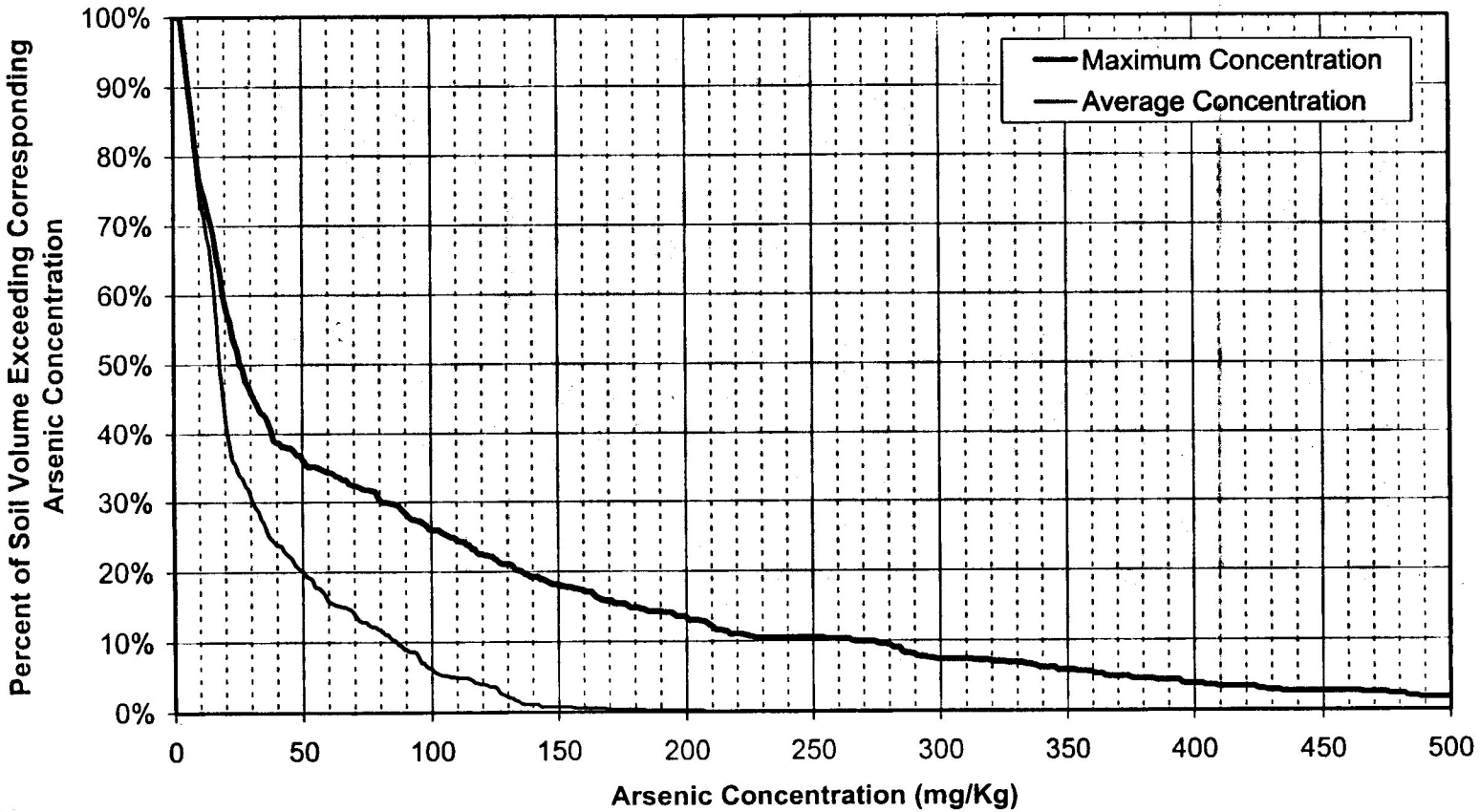


Figure 6-3: Percent of Soil Volume Exceeding Arsenic Concentrations, 24-30 Inch Depth Interval.

### Percent of Soil Volume Exceeding Arsenic Concentrations, 30-36 Inch Depth Interval

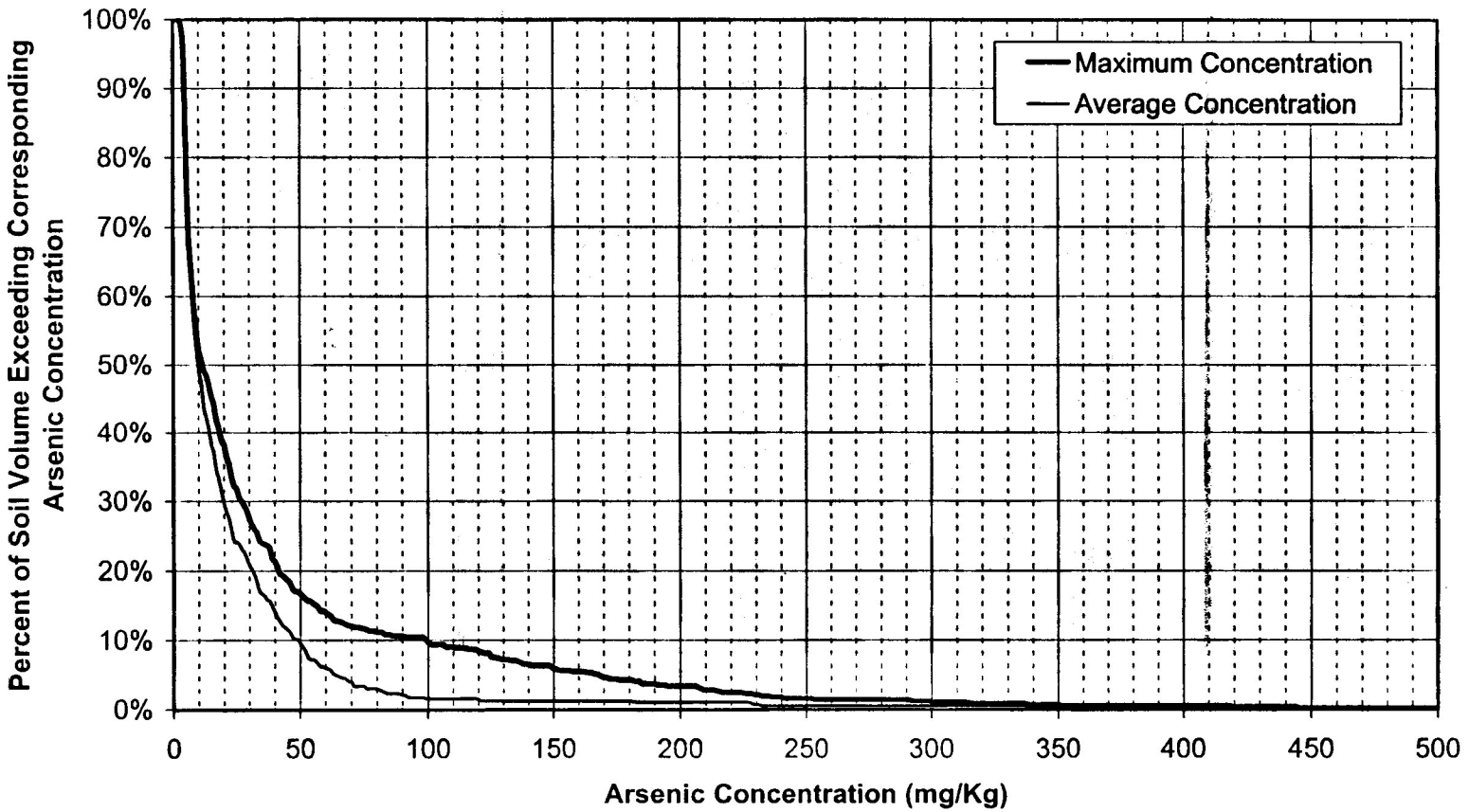


Figure 6-4: Percent of Soil Volume Exceeding Arsenic Concentrations, 30-36 Inch Depth Interval.

### Percent of Soil Volume Exceeding Arsenic Concentrations, 42-48 Inch Depth Interval

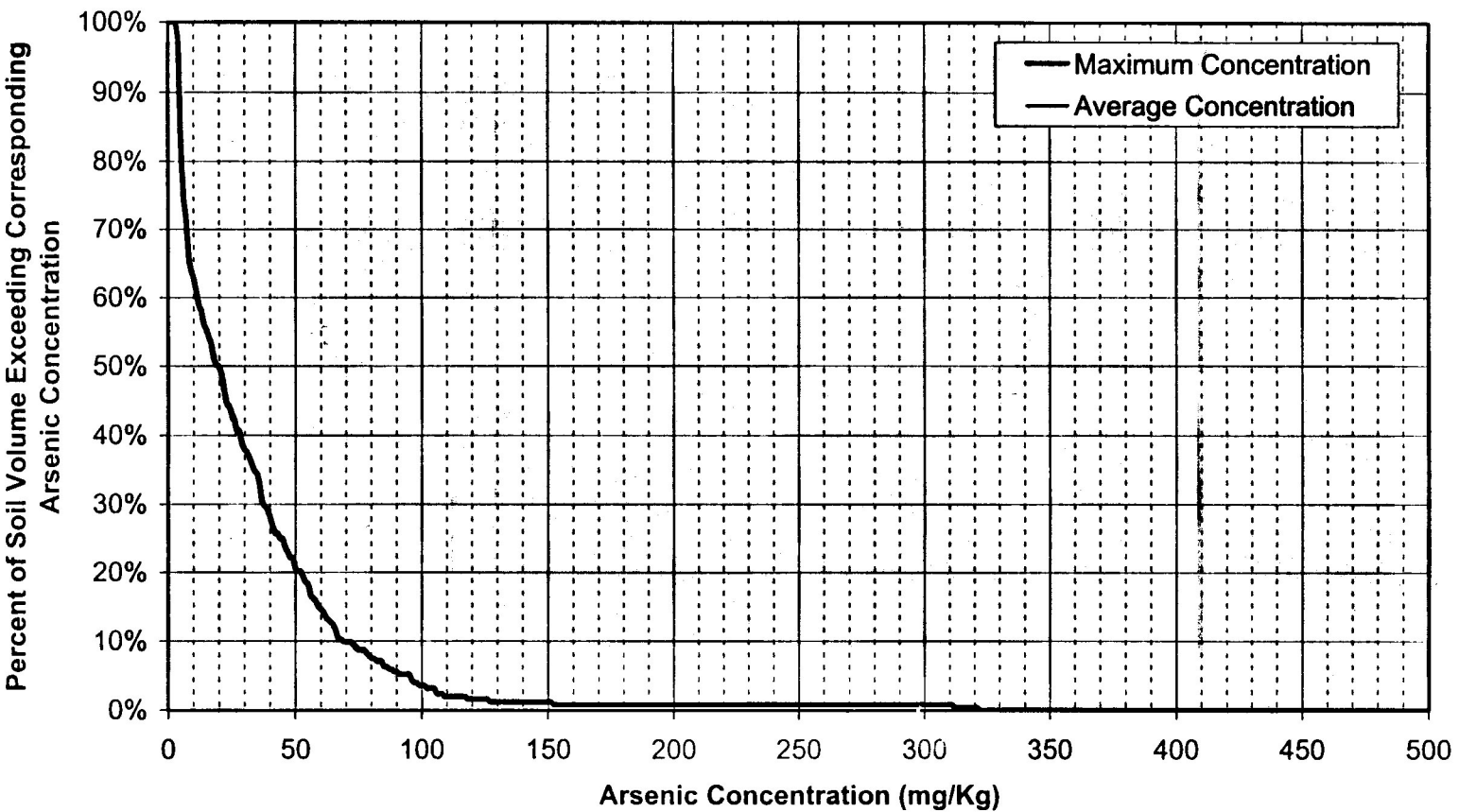


Figure 6-5: Percent of Soil Volume Exceeding Arsenic Concentrations, 42-48 Inch Depth Interval.



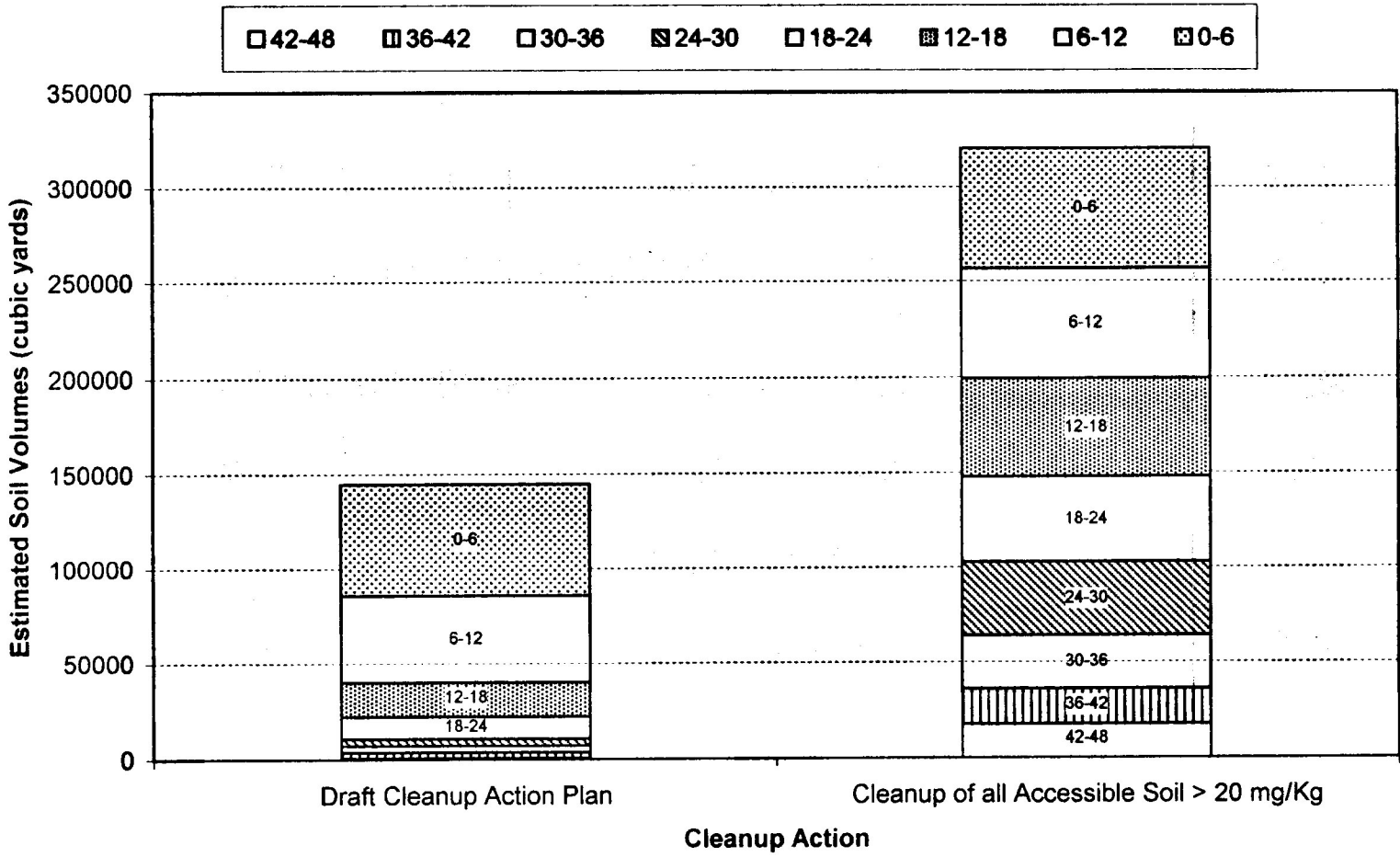


Figure 6-6: Relative Soil Volumes (based on 565 properties).

Depth (in.)	Typical Activities	Qualitative Weight of Concern				Containment Barrier	Performance Standards			
		Low — High	Low — High	Low — High	Low — High		Cleanup Level, Average Conc'ntr'n	Other Perform'nce Standard, Maximum Conc'ntr'n	Remediat'n Level, Average Conc'ntr'n	Remediat'n Level, Maximum Conc'ntr'n
		Carcinogenicity and Recontaminat'n	Acute Toxicity	Confidence in Institutional Controls	Cost Balancing					
0	Mowing, raking, bio-mixing	■	■			20	40	Not Applicable	Not Applicable	
6	Kids, pets digging	■	■			20	40	Not Applicable	Not Applicable	
12	Gardening, general landscaping, tree planting, deck foundations	■	■	■		20	40	60	150	
18		■	■	■		20	40	60	150	
24	Fence posts, Utility Line Installation, Foundations	■	■	■	■	20	40	150	500	
30		■	■	■	■	20	40	150	500	
36	Foundations, Tank Removals, Utility Pole Installation	■	■	■	■	20	40	150	500	
42		■	■	■	■	20	40	150	500	
48		■	■	■	■	20	40	150	500	
Below 48"		■	■	■	■	20	40	150	500	

Performance standards columns show arsenic concentration in mg/Kg and basis for comparison. Exceedances of Remediation Level or Other Performance Standard requires accessible soil in that depth interval be excavated and disposed of in the Consolidation Facility or off-site. Soil with arsenic concentrations between the cleanup level and the remediation level in depth intervals below 12 inches must be contained or removed. Institutional controls and monitoring must continue so long as cleanup levels are exceeded within any depth interval.

Figure 6-7: Selecting Remediation Levels in the Upland Area of the Everett Smelter Site.

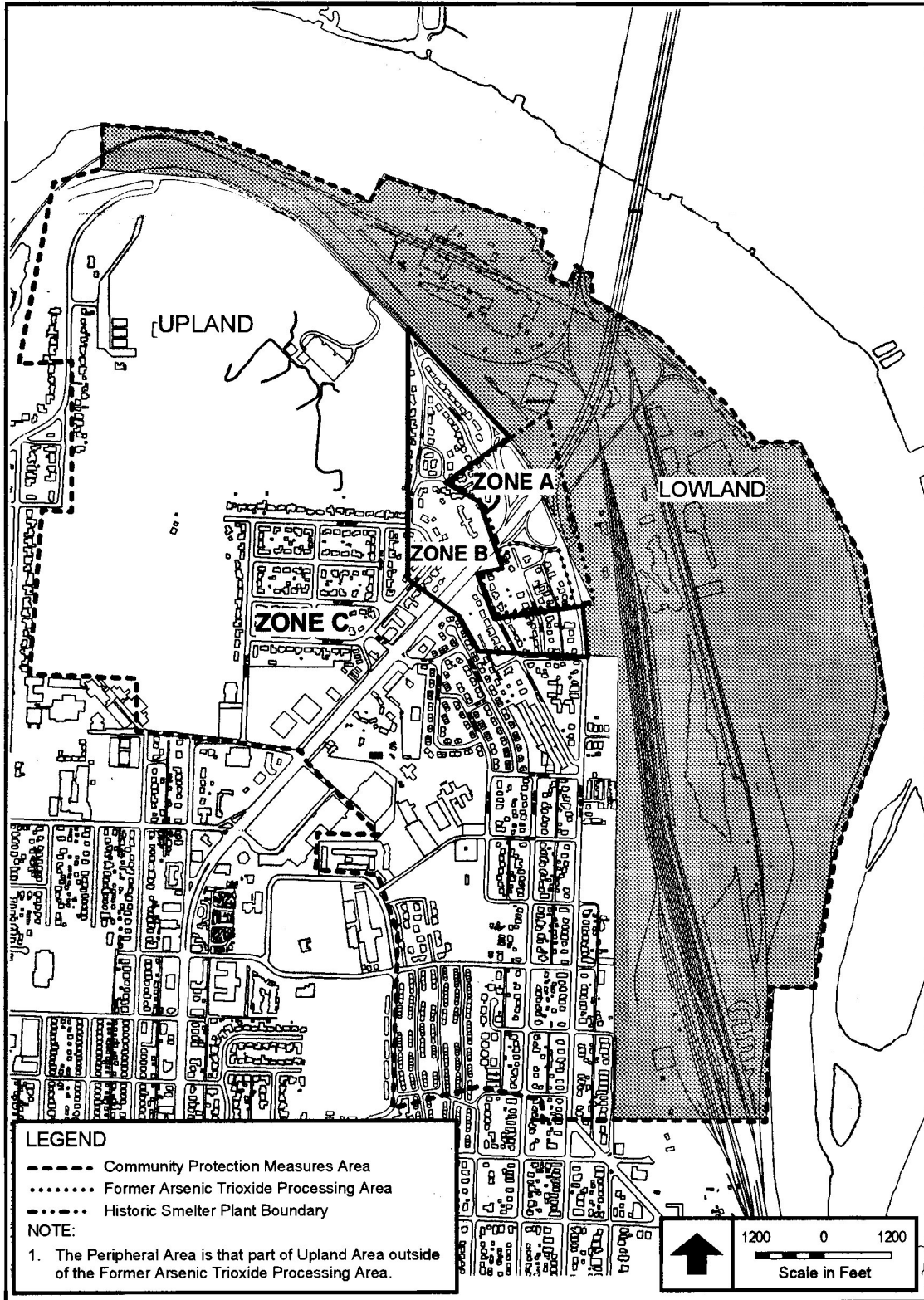


Figure 7-1: Upland Area Soil Sampling Zones.

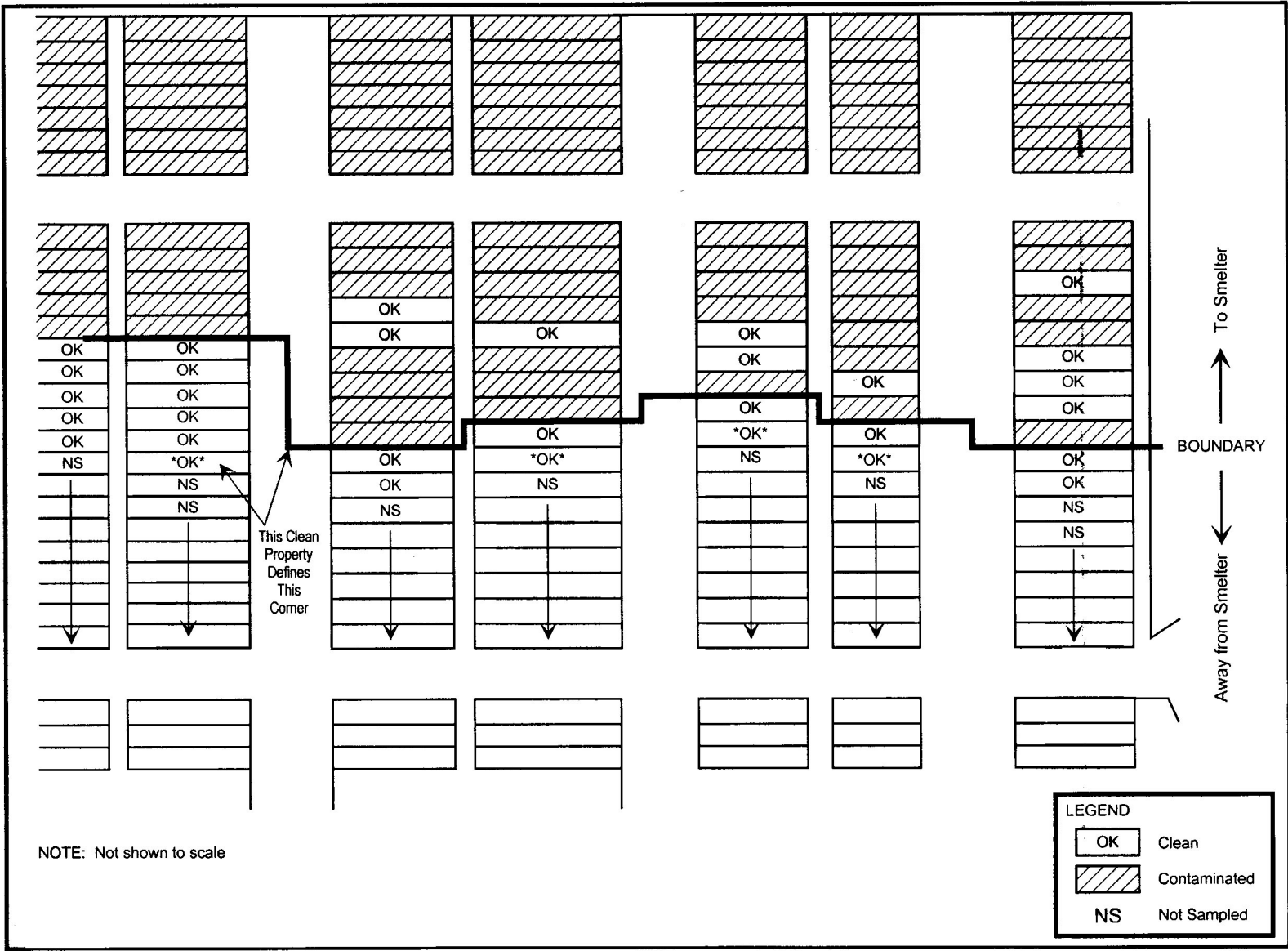


Figure 7-2: Conceptual Sketch of Boundary Identification.

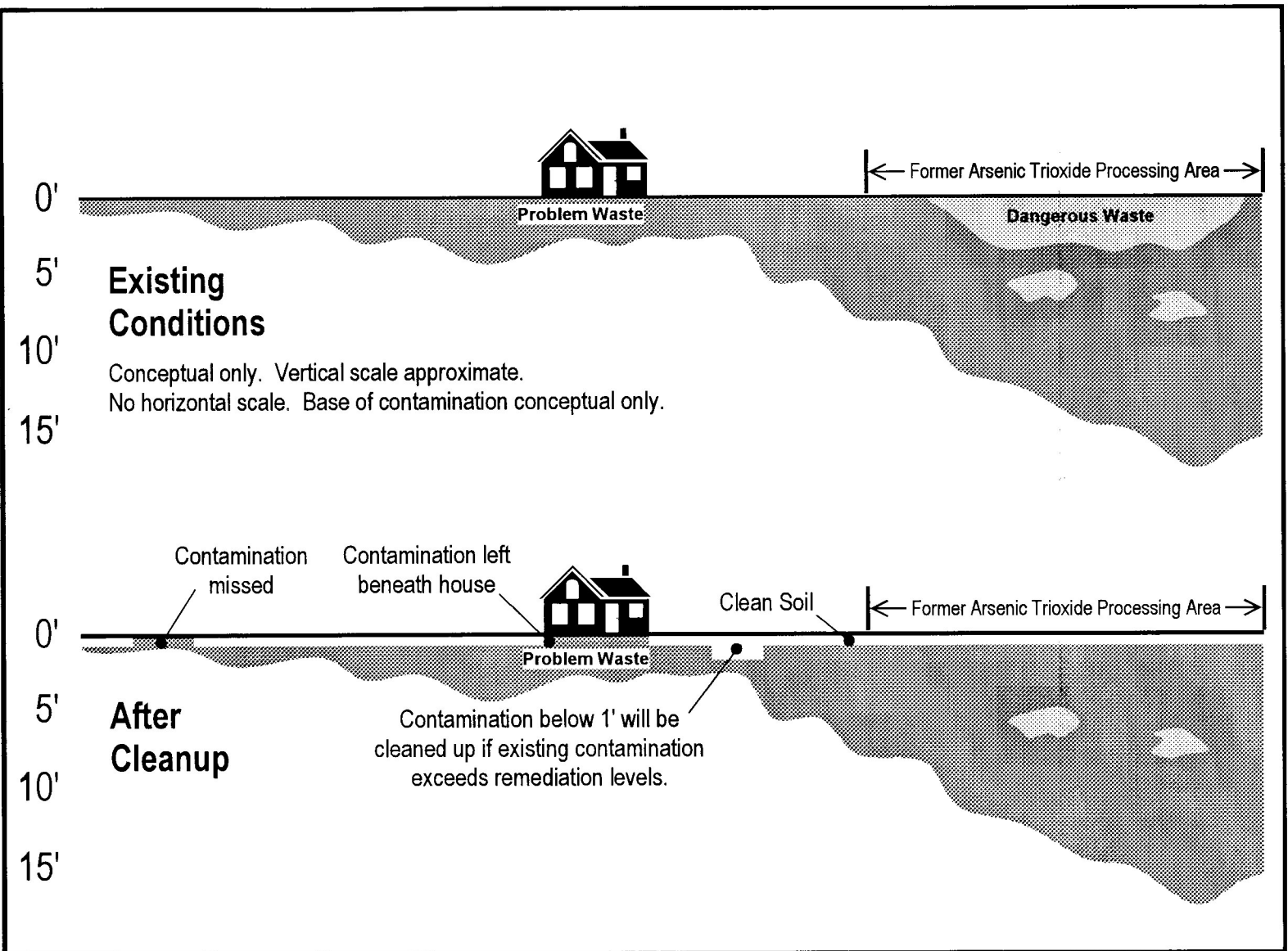


Figure 9-1: Conceptual Sketch of Conditions at the Everett Smelter Site Before and After Cleanup.

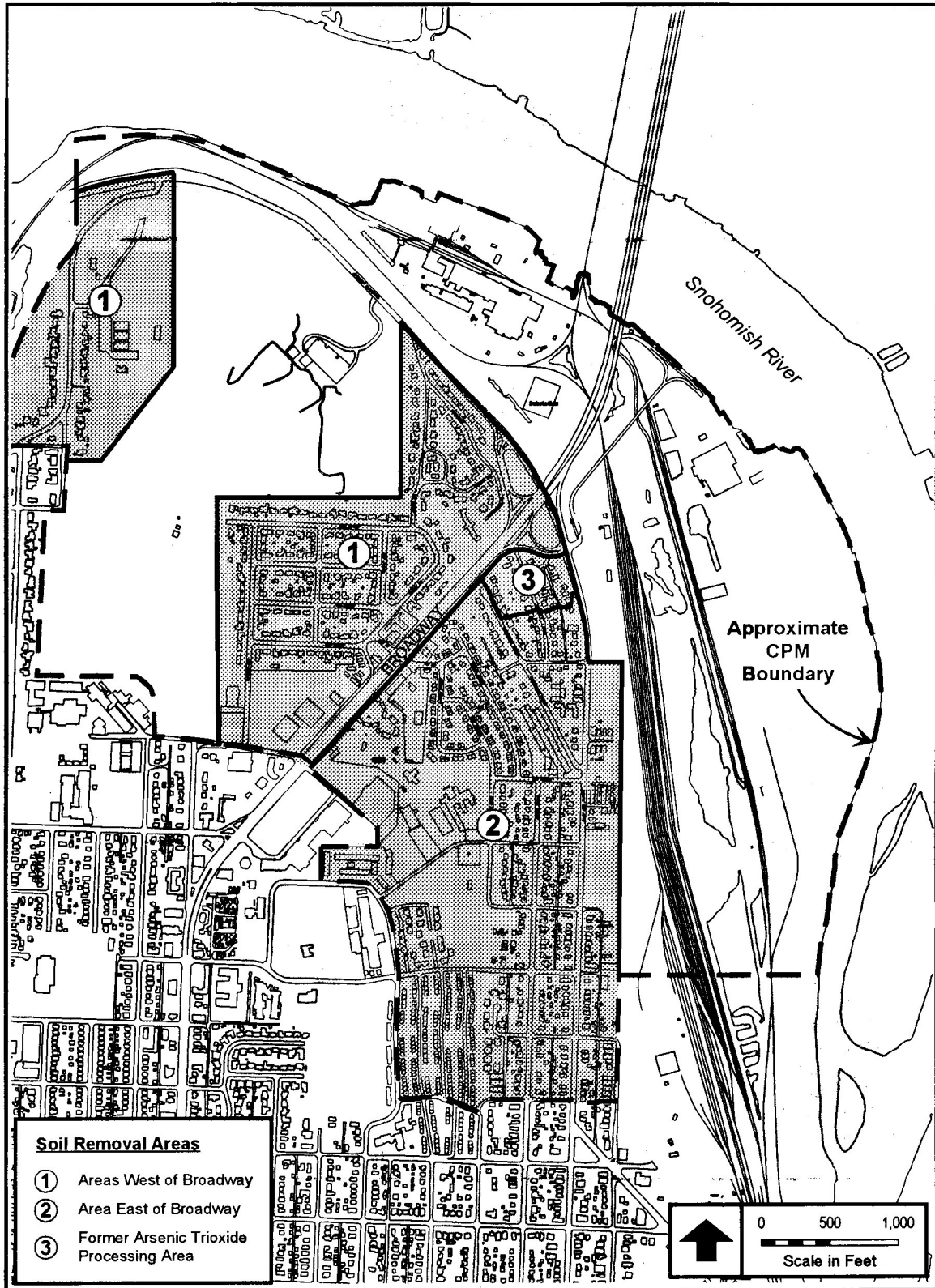


Figure A2-1: Soil Removal Areas for Volume Estimates.



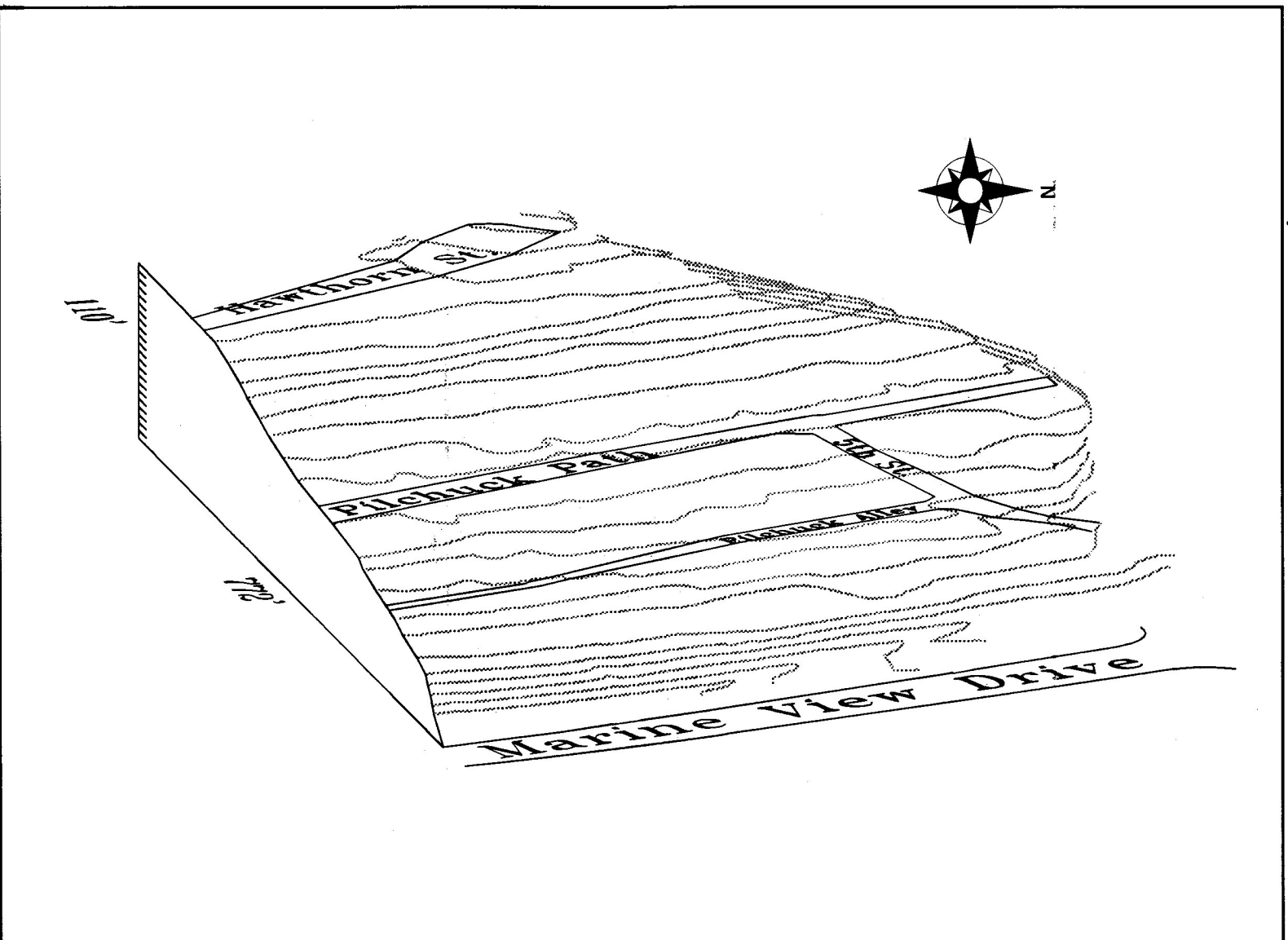


Figure A3-1: Former Arsenic Trioxide Processing Area—Existing Topography.

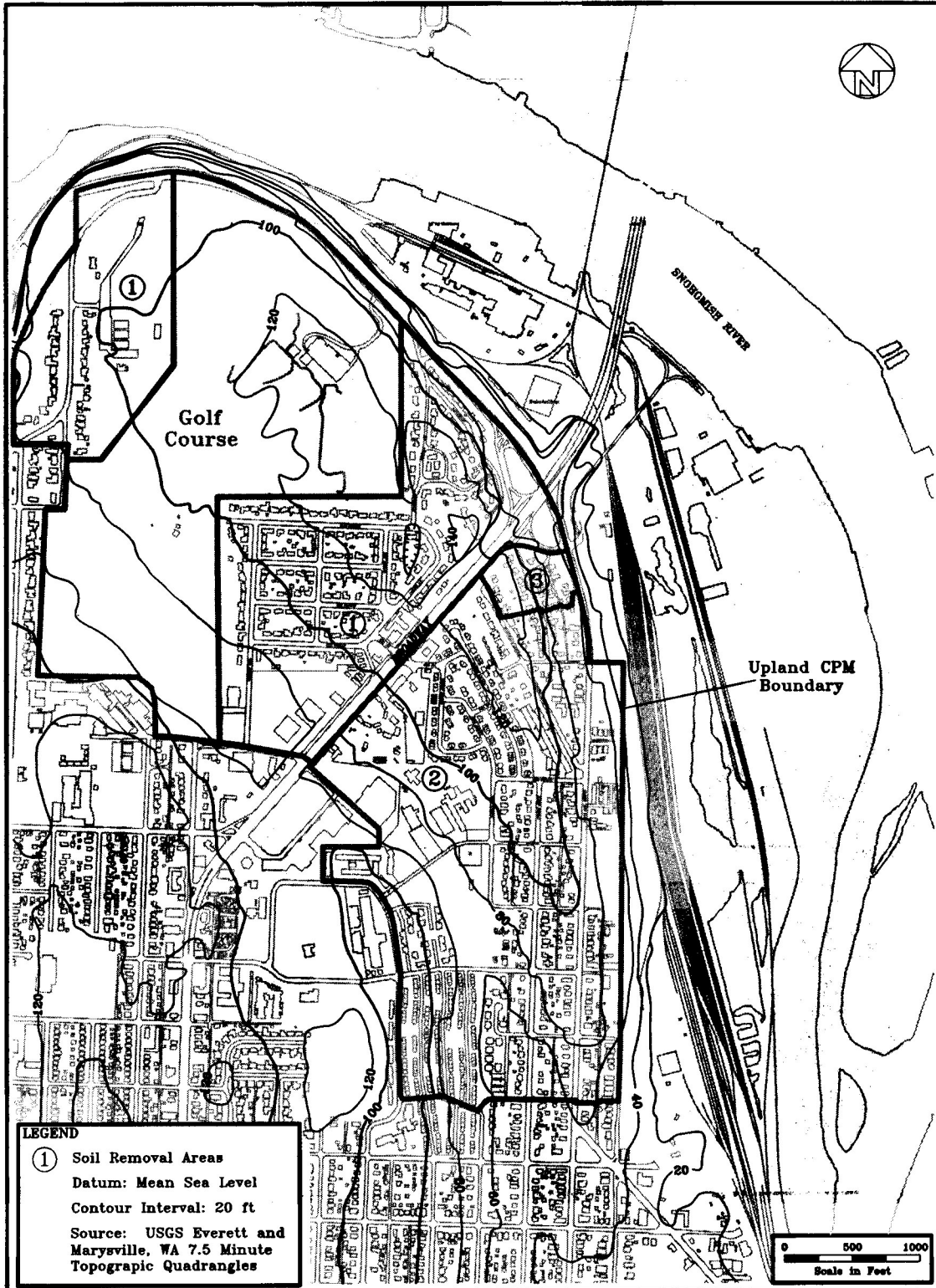


Figure A3-2: Site Topography.

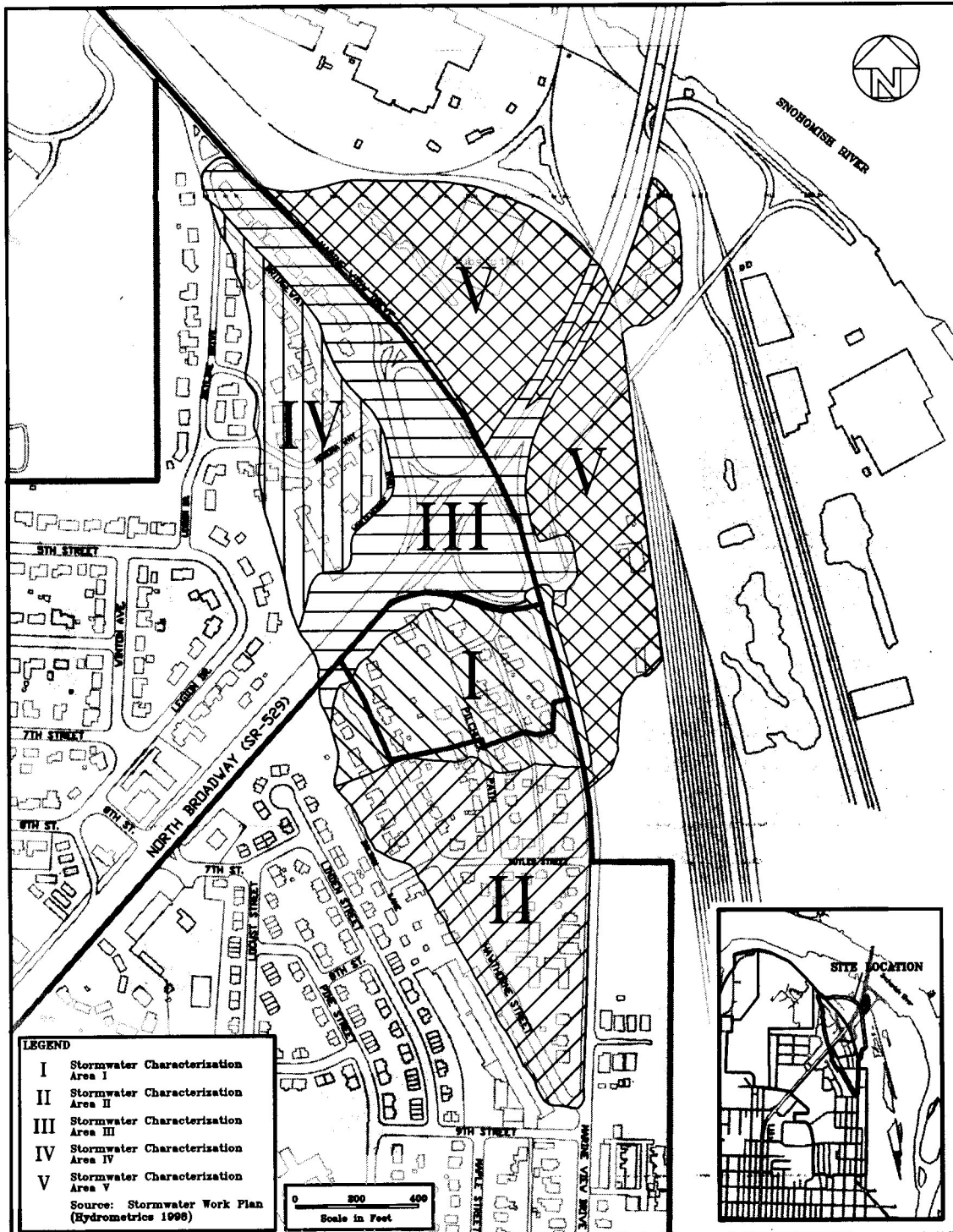


Figure A3-3: Storm Water Characterization Areas.

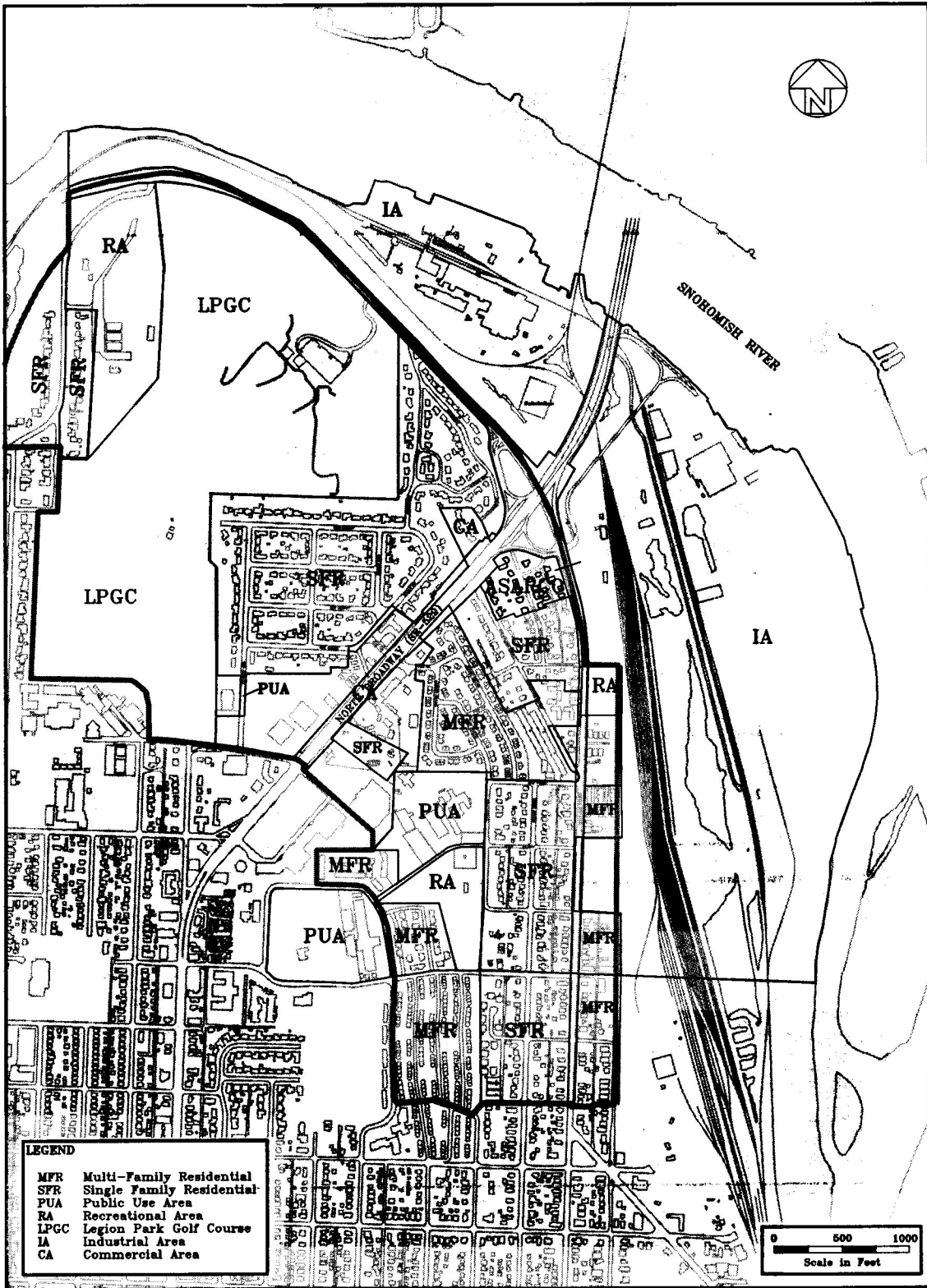


Figure A3-4: Land Use in the Project Site Vicinity.

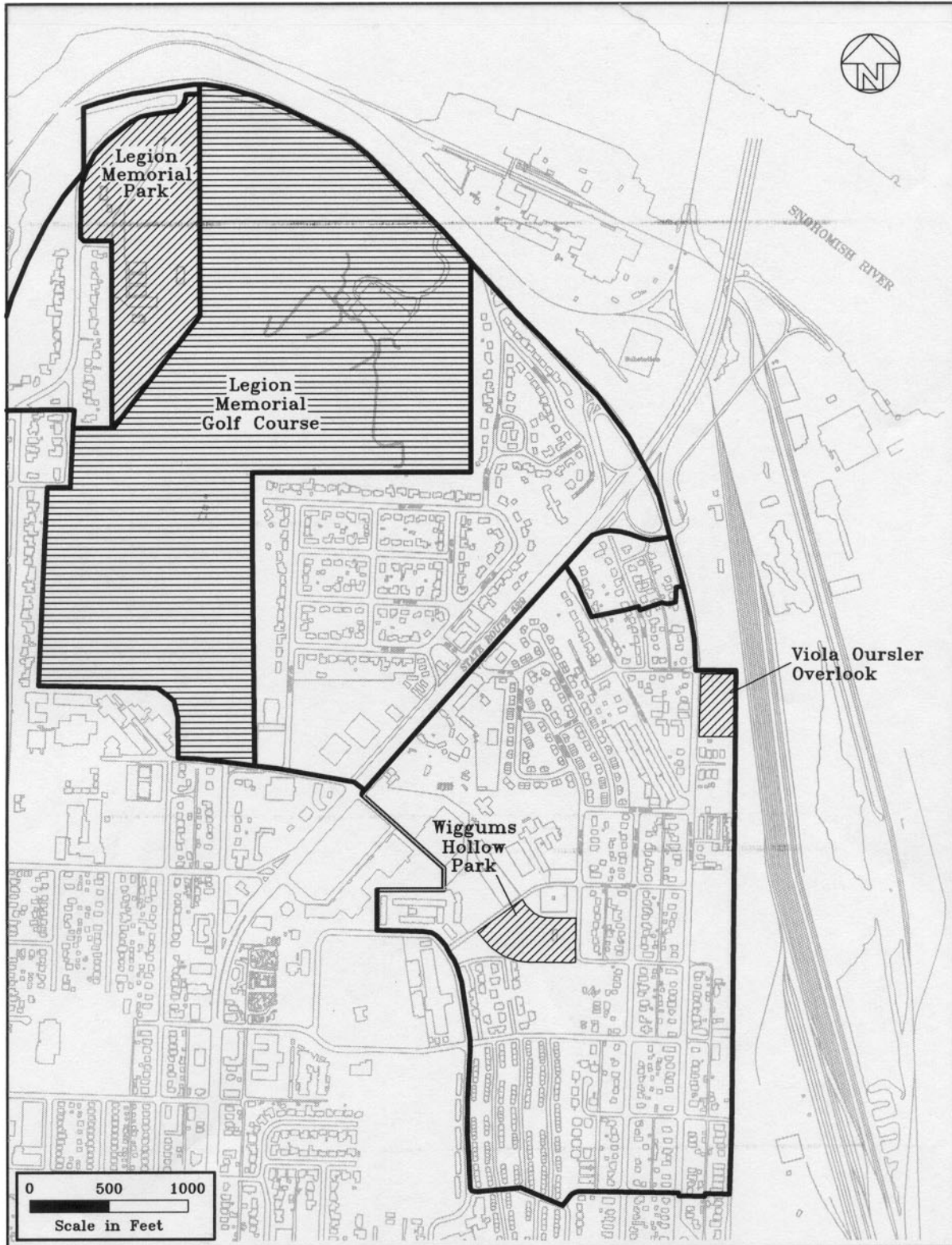


Figure A3-5: Parks Located within the CPM Boundary.



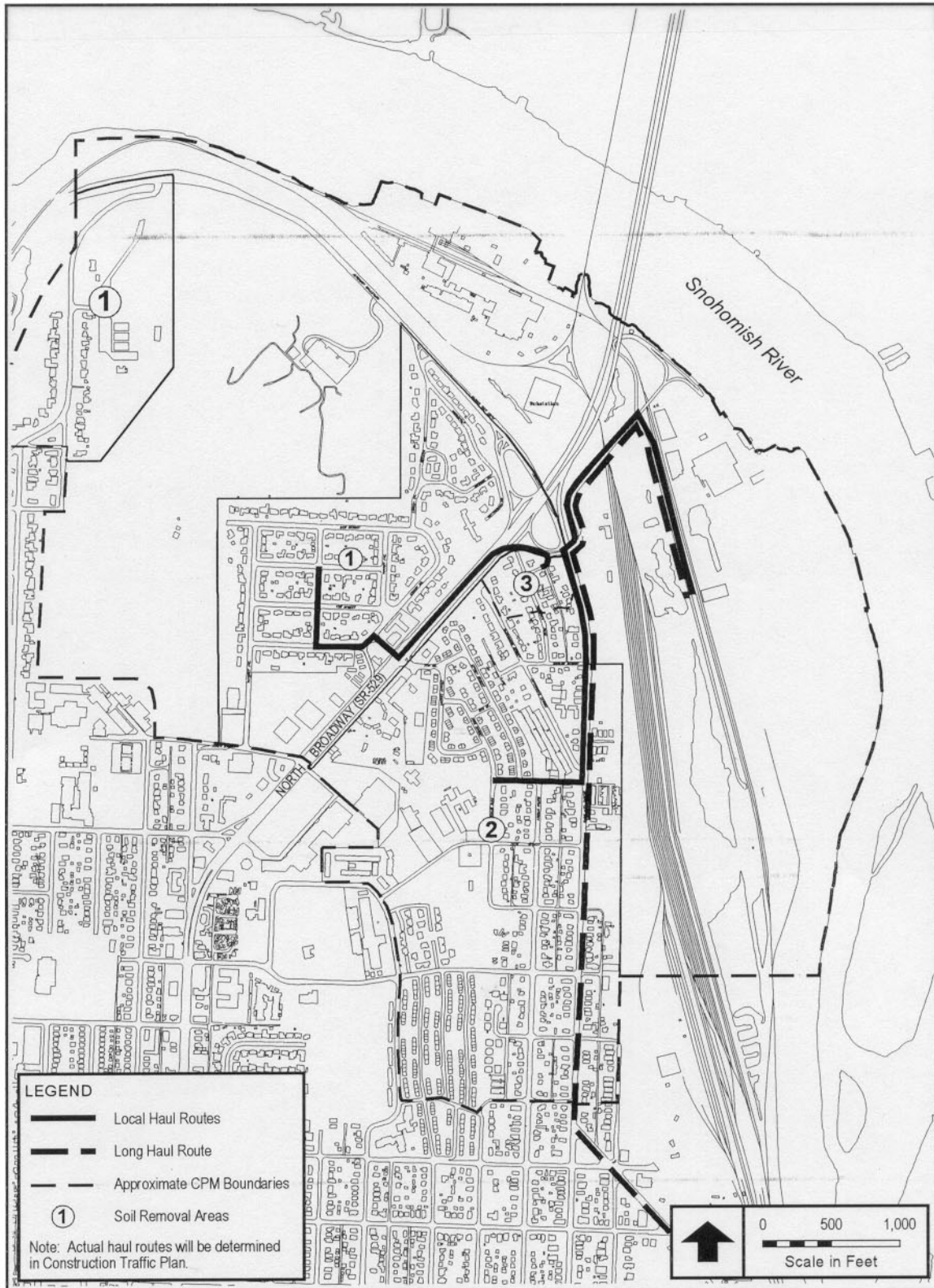
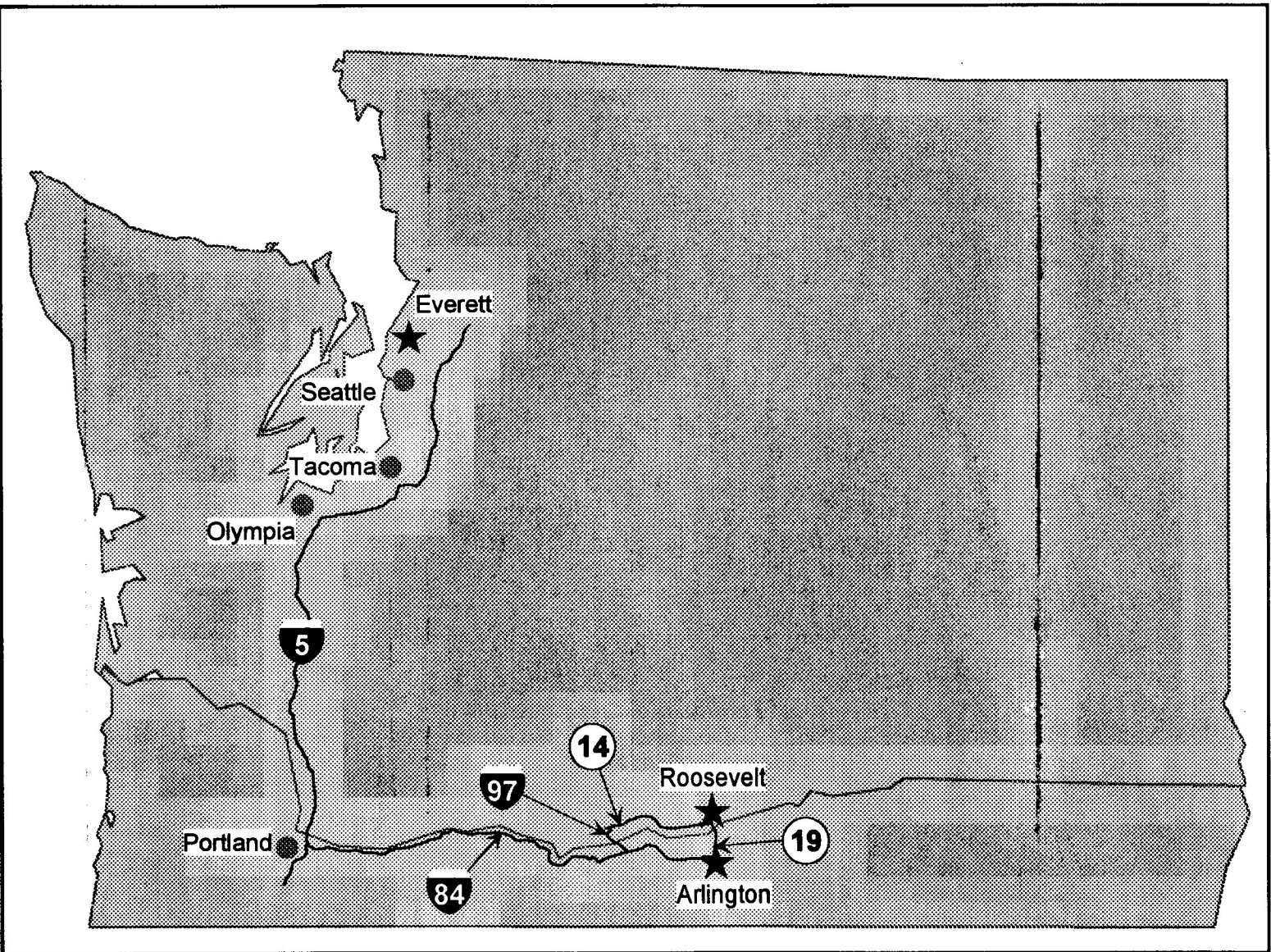


Figure A3-6: Typical Haul Routes.





**Figure A3-7: Transportation Routes to Roosevelt, Washington and Arlington, Oregon for Off-Site Disposal.**



EXPLANATION

ARSENIC CONCENTRATION ZONES

- 0 TO 20 ppm
- 20 TO 50 ppm
- 50 TO 100 ppm
- 100 TO 200 ppm
- 200 TO 230 ppm
- 230 TO 500 ppm
- 500 TO 760 ppm
- 760 TO 1000 ppm
- GREATER THAN 1000 ppm
- APPROXIMATE CPM AREA
- FENCED AREA
- ARSENIC ISOCONCENTRATION LINE (ppm)



EVERETT SMELTER  
WASHINGTON

EXHIBIT 1  
AVERAGE  
ARSENIC CONCENTRATIONS  
0 TO 18 INCH DEPTH

PROJECT: 5377.1	DATE: OCTOBER 1999
REV: 0	BY: MCP CHECKED: SAW

MFG, INC.  
consulting scientists and engineers



EXPLANATION

ARSENIC CONCENTRATION ZONES

- 0 TO 20 ppm
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- 100 TO 200 ppm
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- 230 TO 500 ppm
- 500 TO 760 ppm
- 760 TO 1000 ppm
- GREATER THAN 1000 ppm
- APPROXIMATE CPM AREA
- FENCED AREA
- ARSENIC ISOCONCENTRATION LINE (ppm)



EVERETT SMELTER  
WASHINGTON

EXHIBIT 2  
MAXIMUM  
ARSENIC CONCENTRATIONS  
0 TO 18 INCH DEPTH  
LINEAR INTERPOLATION

PROJECT: 5377.1	DATE: OCTOBER 1999
REV: 0	BY: MCP CHECKED: SAW

MFG, INC.  
consulting scientists and engineers