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## LIST OF ACRONYMS

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<b><u>ACRONYM</u></b>	<b><u>DEFINITION</u></b>
ACM	Asbestos-containing material
AST	Aboveground storage tank
BCP	BRAC Cleanup Plan
BCT	BRAC Cleanup Team
BEC	BRAC Environmental Coordinator
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act, as amended
CERFA	Comprehensive Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CMD	Corrective measure design
CMI	Corrective measure implementation
CS	Chlorobenzylidene malaonitrile
DA	Department of the Army
DNR	Department of Natural Resources
DOD	Department of Defense
EA	Environmental assessment
EBS	Environmental baseline survey
Ecology	Washington State Department of Ecology
ENRD	Environmental and Natural Resources Division
EPA	Environmental Protection Agency
°F	Degrees Fahrenheit
FBI	Federal Bureau of Investigation
FONSI	Finding of no significant impact
FOSL	Finding of suitability to lease
FOST	Finding of suitability to transfer
HR	Hazardous substance release or disposal
HS	Hazardous substance storage
IRP	Installation Restoration Program
IRPIMS	Installation Restoration Program Information Management System
LBP	Lead-based paint
LRA	Local reuse authority

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## LIST OF ACRONYMS

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LUST	Leaking underground storage tank
msl	Mean sea level
MTCA	Model Toxics Control Act
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation and maintenance
PCB	Polychlorinated biphenyl
POL	Petroleum, oil, and lubricants
PR	Petroleum release or disposal
PS	Petroleum storage
RA	Remedial action
RAB	Restoration Advisory Board
RD	Remedial design
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
USACE	U.S. Army Corps of Engineers
UST	Underground storage tank
UXO	Unexploded ordnance
WAC	Washington Administrative Code



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## EXECUTIVE SUMMARY

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### EXECUTIVE SUMMARY

The Secretary of Defense, in cooperation with Congress, proposed a base closure law to close bases and bring base structure in line with force structure. Public Law 100-526, enacted in 1988, created the Commission on Base Realignment and Closure (BRAC). The law charged the Commission with recommending installations for closure or realignment, based on independent study of the domestic military base structure. With subsequent passage of Public Law 101-510 under Title XXIX, enacted in 1990, Congress created the Defense BRAC Commission to provide a fair process resulting in timely closure and realignment of military installations. Public Law 101-510 provides for the BRAC Commission to meet in 1991, 1993, and 1995. The BRAC process identifies installations based on eight criteria, including military value, cost saving and return-on-investment, and the economic and environmental impacts of closure. In July 1993, the President of the United States announced his base closure community reinvestment program to help speed the economic recovery of communities affected by the Department of Defense's BRAC program. The BRAC 95 program has been developed in response to the President's program to limit delays in property reuse and transfer by changing the way cleanup is conducted (i.e., from a slow-paced, structured process to an accelerated process).

The BRAC Cleanup Plan (BCP) for Camp Bonneville is being prepared under the BRAC 95 program. The BRAC process includes preparing an Environmental Baseline Survey, Community Environmental Response Facilitation Act reports, Sampling and Analysis Recommendations, and a BCP. The BCP process under the BRAC 95 program centers on a single goal: *expediting and improving environmental response actions in order to facilitate the disposal and reuse of Camp Bonneville, while protecting human health and the environment.*

The BCP provides the status, management and response strategy, and action items related to the ongoing environmental restoration and associated compliance programs at Camp Bonneville. These programs support full restoration of the base property, where feasible, which is necessary to meet the requirements for property disposal and reuse activities associated with closure of the installation.

The BCP is a planning document based on the best, currently-available information. The information and assumptions presented may not necessarily have complete approval from the base authorities and/or federal and state regulatory agencies. The BCP is a dynamic document that will be updated periodically to reflect the current status and strategies of remedial actions. This document is the first in a series of updates/modifications and represents conditions and strategies as of October 1996.

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## EXECUTIVE SUMMARY

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The following BCP abstract ([Table ES-1](#)) provides a summary of essential information contained in the BCP for Camp Bonneville. It includes summaries of the installation description; environmental condition of the property; reuse planning status; restoration program; compliance program; conservation program; issues for execution of the program; and projected fiscal year funding. The BCP abstract will be updated at the same time as the BCP.

## 1.0 INTRODUCTION

This Base Realignment and Closure (BRAC) Cleanup Plan (BCP) for Camp Bonneville was prepared by Woodward-Clyde for the U.S. Army Corps of Engineers (USACE) under Contract No. DACA67-95-D-1001, Delivery Order No. 0009.

Camp Bonneville, located in Clark County, Washington, is a U.S. government property selected for transfer and reuse by the BRAC 95 Commission. Camp Bonneville is a sub-installation of Vancouver Barracks, which is a sub-installation of Fort Lewis, Washington. Camp Bonneville encompasses approximately 3,840 acres, which have been identified as BRAC property subject to lease or transfer. The installation was established in 1909 as a drill field and rifle range. Historically, Camp Bonneville has been used as a training camp for active U.S. Army, U.S. Army Reserve, U.S. National Guard, U.S. Marine Corps Reserve, U.S. Navy Reserve, and U.S. Coast Guard Reserve units, as well as other Department of Defense (DOD) reserve personnel.

As a result of past waste and resource management practices at Camp Bonneville, some areas have become contaminated by various hazardous substances, contaminants, or wastes. To address these past practices, environmental restoration programs have been initiated at Camp Bonneville. Current waste and resource management practices are conducted in compliance with applicable environmental laws and regulations in order to protect human health and the environment.

This BCP is a planning document that presents the status, strategy, and schedule for environmental restoration and compliance activities at Camp Bonneville. The BCP is based on information currently available to the U.S. Army and regulatory agencies. The BCP is a dynamic document that will be updated periodically to reflect the current status and strategies of remedial actions. The information and schedules presented in this BCP were obtained from the BRAC Cleanup Team (BCT). Because it was necessary to make certain assumptions in preparing this BCP, implementation programs and cost estimates could be significantly altered if environmental conditions and/or administrative decisions change from those assumed. Such changes, as they occur, will then be reflected in updates to the BCP.

The BCP is organized into the following sections and appendices in accordance with the BRAC Cleanup Plan Guidebook (DOD 1995).

- Section 1 describes environmental restoration program objectives, explains the purpose of the BCP; introduces the BCT and project team formed to review the program; provides a brief installation history; and summarizes the site environmental setting
- Section 2 summarizes the current status of the Camp Bonneville property disposal planning process, describes the relationship of the disposal process to other environmental programs, and summarizes potential and anticipated property transfer mechanisms
- Section 3 summarizes the current status and history of the Camp Bonneville Installation Restoration Program (IRP), environmental compliance programs, natural and cultural resource programs, and community relations activities that have occurred to date, as well as the environmental condition of the Camp Bonneville property
- Section 4 describes the Camp Bonneville site-wide strategy for environmental restoration, compliance, natural and cultural resources, and community involvement
- Section 5 provides the master schedules of planned and anticipated activities to be performed throughout the duration of the environmental restoration program, including IRP compliance activities and natural and cultural resources, and a BCT meeting schedule
- Section 6 describes specific technical and/or administrative issues to be resolved and presents strategies for resolving those issues

The following appendices are included in this document:

- Appendix A contains tables presenting funding requirements, as well as a summary table of historical costs for the environmental restoration program
- Appendix B contains a description of the weapons and ammunition used at Camp Bonneville from 1918 to 1974

## 1.1 ENVIRONMENTAL RESPONSE OBJECTIVES

The Fort Lewis Environmental and Natural Resources Division (ENRD) and the BCT are responsible for the management and implementation of the environmental programs at Camp Bonneville, Washington. In addition, the BCT is responsible for the environmental investigation, remedial design (RD) and corrective measure design (CMD), remedial action (RA), and corrective measure implementation (CMI). Program support is provided by USACE, Seattle District.

Combined objectives held by the ENRD, BCT, USACE, and other U.S. Army supporting agencies for the environmental restoration and compliance program at Camp Bonneville, Washington, are as follows:

- Protect human health and the environment
- Continue compliance with regulatory agency requirements
- Continue efforts to identify all potentially contaminated areas and incorporate any new sites into the BCP process, as appropriate
- Continue to reevaluate priorities for environmental restoration and restoration-related compliance activities so that property disposal and reuse goals can be met
- Complete the environmental restoration process as soon as practical for each site, in an order of priority that takes into account human health and safety concerns, environmental concerns, and redevelopment plans
- Identify opportunities for selected removal actions to control, eliminate, or reduce risks to manageable levels
- Consider future land use when characterizing risks associated with releases of hazardous substances (including unexploded ordnance [UXO]), pollutants, contaminants, or problem wastes
- Establish interim and long-term monitoring plans for RAs as appropriate

- Continue to identify and map the environmental condition of installation property with the intent of identifying areas suitable for transfer by lease or deed
- Meet requirements of the National Environmental Policy Act (NEPA) as it applies to BRAC actions
- Advise the USACE, Real Estate Branch, of properties that are suitable for transfer and properties that are not suitable for transfer because of a lack of proper evaluation or because they pose an unacceptable risk to human health or the environment
- Strive to meet reuse goals established by the U.S. Army and the community, consistent with legislation relevant to Camp Bonneville's realignment (and ultimate closure)
- Conduct environmental restoration activities in a manner consistent with Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA)
- Conduct Community Environmental Response Facilitation Act (CERFA) investigations
- Develop, screen, and select RAs that reduce risks in a manner consistent with statutory requirements
- Commence RAs for (1) environmental and (2) property disposal and reuse priority areas as soon as practicable
- Conduct long-term RAs for groundwater and any necessary 5-year reviews for wastes left on-site
- Ensure involvement of and communication with the public, local governments, federal and state agencies, and regulators
- Strive to complete the environmental remediation efforts on Camp Bonneville no later than the end of calendar year 1999

## 1.2 BCP PURPOSE, UPDATES, AND DISTRIBUTIONS

This BCP is intended to:

- Summarize the current status of Camp Bonneville environmental restoration programs
- Present a comprehensive strategy for implementing response actions necessary to protect human health and the environment
- Present schedules for restoration and compliance activities

The strategy integrates activities being performed under the IRP and associated environmental compliance programs to support restoration of Camp Bonneville.

This BCP was prepared with information available as of October 1996. Information presented in this BCP is derived, for the most part, from the Camp Bonneville Draft Environmental Baseline Survey (EBS) dated March 1996 and supplemented April 1996. Since preparation of the draft EBS, new information has become available and has been incorporated into this BCP as follows:

- The parcels that have been qualified in the draft EBS for UXO have been combined into one parcel which comprises the entire installation (1Q-X[P]). A notation has been added to indicate that it is unlikely UXO are present in the airstrip, Killpack Cantonment, or Bonneville Cantonment areas, or the road that leads from the entrance of the installation to the two cantonments.
- Due to the change in the UXO-qualified parcels, the other BRAC parcels identified in the draft EBS have been re-numbered (see Table 3-5).
- In addition, three new BRAC parcels identified since the draft EBS are included in this document. These sites are the old sewage lagoon (17[7]HR[P]), a reported buried drum site (18[7]HR[P]), and a reported waste paint/solvent burial site (19[7]HR[P])

The draft EBS is currently undergoing review and revision. Changes to information derived from that document will be reflected in later versions of this BCP. Also, changes made in this document since the draft EBS will be reflected in the draft final EBS. Additional information on the site history and environmental setting can be found in the EBS.

The BCP is a dynamic document that will be updated to incorporate newly obtained information and reflect the completion or change in status of any remedial actions. The first update of the BCP (Version 2) will be in approximately one year. After the first update, the BCP will be updated on an annual basis or as needed, as determined by the BCT. Updates of the BCP will be distributed to each member of the BCT, as well as to additional parties identified during the Restoration Advisory Board (RAB) meeting on September 16, 1996.

### **1.3 BCT/PROJECT TEAM**

The Camp Bonneville BCT has been established and is led by the BRAC Environmental Coordinator (BEC). The BCT meetings are the means of conducting periodic program reviews and reaching consensus on decisions with federal and state regulators. The BCT includes representatives for Camp Bonneville, the U.S. Environmental Protection Agency (EPA) Region 10, and the Washington State Department of Ecology (Ecology). The BCT is supported by a project team consisting of technical, operational, reuse, and administrative specialists, as needed. A list of the BCT and project team members and descriptions of their roles and responsibilities is provided in Table 1-1.

### **1.4 SITE DESCRIPTION AND HISTORY OF INSTALLATION**

This section describes the site and summarizes the operations history of Camp Bonneville.

#### **1.4.1 Site Description**

Camp Bonneville is located in Clark County in the southwestern portion of Washington, approximately 12 miles northeast of Vancouver, as shown on Figure 1-1. It consists of approximately 3,840 acres, of which 820 acres are leased from the State of Washington (U.S. Army 1994). Camp Bonneville includes two cantonment (i.e., temporary quarters) areas, Killpack and Bonneville, which cover approximately 30 acres. The remaining land at the installation is used for training.

Camp Bonneville has approximately 18 tactical training areas, including an emergency air and helicopter strip, and approximately 25 firing ranges. The training areas are generally used for non-firing training exercises, while the firing ranges have been used for a variety of weapons training. The majority of Camp Bonneville facilities are found at the Bonneville cantonment (30 facilities, of which two have been destroyed by fire) and the Killpack cantonment (26 facilities). A list of the facilities located at the Bonneville cantonment and Killpack cantonment are provided in Table 1-2 and

Table 1-3, respectively. Other permanent structures at Camp Bonneville are the structures associated with the firing ranges (e.g., lookout towers, shelters).

### 1.4.2 Installation History and Mission

Camp Bonneville was established in 1909 as a drill field and rifle range for Vancouver Barracks. In 1912, an appropriation was made to expand facilities at Camp Bonneville to include a target range and a road leading to the post. The 3,020 acres upon which Camp Bonneville was established were purchased in 1919. The Bonneville and Killpack cantonments were established during the late 1920s and the early 1930s, respectively, and currently contain a total of 54 buildings. The U.S. Army leased 840 acres, in two separate parcels, from the State of Washington in 1955. In 1957, the lease on 20 acres was terminated. The U.S. Army's lease on the remaining 820 acres was in effect until September 30, 1996 (U.S. Army 1991). The USACE, under the direction of U.S. Army Forces Command (FORSCOM), is currently pursuing a lease extension for 12 months with the Washington State Department of Natural Resources (DNR) as an interim action given current ongoing environmental assessments for UXO (discussed in Sections 3 and 4). The Federal Bureau of Investigation (FBI) currently uses range R-8 for target practice. The Local Reuse Authority (LRA) has agreed that this range area will remain as a target practice area for the FBI after closure of the installation.

The mission of Camp Bonneville was to provide a training camp for active U.S. Army, U.S. Army Reserve, U.S. National Guard, U.S. Marine Corps Reserve, U.S. Navy Reserve, and U.S. Coast Guard Reserve units, and other DOD reserve personnel. Past uses of Camp Bonneville have varied, largely depending on the type and level of demand for trained personnel .

Non-firing training at Camp Bonneville involved troop maneuvers, encampments, field tactical training, and vehicle support. Vehicles used at Camp Bonneville included light and heavy trucks, occasional construction equipment, and tracked vehicles which were limited to existing roads. Helicopters occasionally used the emergency landing strip. United States Army Engineer units used the training areas for combat and construction training, including construction and removal of barriers and limited quarrying and road work. Smoke and riot control agents have been used in association with field training activities (McMaster 1983).

The firing ranges at Camp Bonneville have been used for a variety of weapons training. At least 25 firing ranges have been identified from maps dating back to 1958, including firing ranges for small

arms, large-caliber machine guns, rifles, grenades, light antitank weapon rockets, and subcaliber weapons. Artillery and mortar training was conducted at the installation until 1968. A summary of the range numbers, their uses and types of weapons used are provided in Table 1-4. In addition, a more detailed discussion of the weapons and ammunition used at Camp Bonneville from 1918 to 1974 is provided in Appendix B. The firing points, firing ranges, and associated range fans and impact areas are shown on Figure 1-2.

The range fans delineated on Figure 1-2 are believed to encompass all the components of the surface danger zone (AR 385-63), including line of fire, limit of fire, dispersion area, ricochet area, target area, impact area, and secondary danger areas. The area at each range in which the majority of rounds fall is generally very small compared to the full fan.

The Artillery Impact Area (Figure 1-2) is a combination (i.e., maximum area) of all artillery impact areas from maps reviewed. This area was the intended target area of artillery and mortar practice. The artillery impact fan area is a combination (i.e., maximum area) of all artillery impact fans delineated on a 1972 map (USGS 1972). The impact fans include the intended Artillery Impact Area and surrounding safety zones. The 1972 map does not delineate the mortar impact fans.

When not required for military training activities, Camp Bonneville was used until the late 1980s by local civic and nonprofit organizations for religious retreats and picnics, as a camp for Boy Scouts, as a location for high school environmental studies, and for State Highway Patrol pistol training (U.S. Army 1994).

The U.S. Army has been managing forest land at Camp Bonneville since 1957. Management activities have consisted of scarification and replanting of lands burned during the fires of 1902, 1938, and 1951 and timber sales (Hunter 1991).

Table 1-5 summarizes operations at Camp Bonneville by date. The table also includes confirmed and suspected hazardous substance activities and their locations.

## 1.5 OFF-BASE PROPERTY/TENANTS

There are no off-base properties or tenants associated with Camp Bonneville. During the EBS, visual inspections were performed on properties adjacent to Camp Bonneville. Because of the inaccessibility

of the adjoining forest land and the low potential for impacts to the installation from residential areas adjacent to Camp Bonneville, the visual survey of these areas was limited to a fenceline automobile survey of the west and southwest portion of the installation boundary. The visual inspections did not reveal any obvious environmental concerns.

## 1.6 ENVIRONMENTAL SETTING

### 1.6.1 Physical Setting

Camp Bonneville is located on the western slope of the Cascade Mountains in the Lacamas Creek valley. The terrain is generally rolling, typical of foothills of the Cascade Mountains, covered with undergrowth and large stands of coniferous timber. The west quarter of the installation consists generally of low hills and the low plain of the Lacamas Creek valley, while the remainder of the post comprises the well-dissected hills of the westernmost Cascade Mountain foothills. Elevations range from 289 feet above mean sea level (msl) in Lacamas Creek at the southwest corner of the installation to 1,000 feet above msl at the northwest, 1,350 feet above msl at the southeast, and 1,452 feet above msl at the south-central boundary of the installation. The topography is erosional except for shallow deposition in the Lacamas Creek valley (Dalan and Wilke 1981).

### 1.6.2 Demographics

Camp Bonneville is located in a rural area. The surrounding area is a sparsely populated rural community used for livestock grazing and farming, with evidence of gradual encroachment of residential development from Vancouver. The nearest town is the unincorporated community of Proebstel, about 2 miles west of the installation (U.S. Army 1994).

### 1.6.3 Climatology

The climate of Camp Bonneville is cool and humid in fall, winter, and spring, with dry summers. Air currents over this area are predominantly from the west, and air masses conditioned by the Pacific Ocean greatly moderate both the colder temperatures of winter and the heat of summer. A difference of only 28 degrees Fahrenheit (°F) exists between the mean January temperature, the coldest month of the year, and that of July, the warmest. On the average, there are only 26 days a year with temperatures below freezing and seven days with temperatures of 90°F or more. Highest and lowest recorded temperatures during the past 77 years are 103°F and 19°F, respectively. Forty-four percent of the 42.26 inches of average annual total rainfall occurs during the spring, 7 percent during the

summer, 27 percent in the fall, and 22 percent in the winter. There is an average of 154 days a year with measurable amounts of rainfall. The usual snow depth is only 2 or 3 inches, with a continuous snow cover lasting one to three days at a time. The yearly average wind speed is 6.8 miles per hour with negligible differences between the various seasons of the year. Heavy fog occurs frequently during the fall and winter (U.S. Army 1978).

#### 1.6.4 Hydrology

The principal surface water feature is Lacamas Creek, which flows from the coalescence of three branch streams in the north-central part of Camp Bonneville southward, exiting the installation at its southwest corner. Numerous minor tributaries draining adjacent uplands flow into Lacamas Creek. Buck Creek and David Creek, the largest of these streams, drain the highlands to the south and east. Two artificial impoundments of Lacamas Creek, with a total surface area of less than 4,600 square feet, have been created to support a trout sports fishery (U.S. Army 1995a).

#### 1.6.5 Geology

Camp Bonneville is situated on the margin of the western foothills of the southern Cascade Mountains in the transition zone between the Puget Trough and the Willamette Trough Provinces. The geology of this area generally consists of Eocene and Miocene volcanic and sedimentary rock types overlain by unconsolidated clays, silts, sands, and gravels of the Troutdale formation (U.S. Army 1995a).

The geology at Camp Bonneville can be divided into three general areas that correspond approximately to topographic divisions. The area west of Lacamas Creek is composed of a series of predominantly gravel and semi-consolidated conglomerate with scattered lenses and stringers of sand (Upper Troutdale formation). Underlying the Troutdale formation, and comprising the area to the north and east of Lacamas Creek, are basalt flows and flow breccia, with some pyroclastic and andesitic rocks, which are folded and faulted. The bottomland along Lacamas Creek is comprised of unconsolidated silt, sand, and gravel valley fill, with some clay. Due to the thick soil and dense vegetation, no faults have been identified within Camp Bonneville (McMaster 1983).

Soils of Camp Bonneville are mainly clayey and nonporous, so there is considerable runoff after each storm and occasional minor flooding of Lacamas Creek. Upland soils have mainly developed from basalt and are generally gravelly or stony and fairly shallow. Bottomland soils along Lacamas Creek tend to be clayey (Dalan and Wilke 1981).

**1.6.6 Hydrogeology**

Little information is available for Camp Bonneville groundwater. The groundwater flow generally follows local topography toward the south and west. A rising water table occurs in the early fall through spring during the rainy season, and a lowering of the water table occurs throughout the summer months. Two drinking water wells are located at Camp Bonneville, a 385-foot-deep well at the Bonneville cantonment and a 193-foot-deep well at the Killpack cantonment (McMaster 1983). Several groundwater monitoring wells associated with the sewage lagoon are located east of the Bonneville cantonment; to date, no groundwater samples have been collected from these wells.

**1.7 HAZARDOUS SUBSTANCES AND WASTE MANAGEMENT PRACTICES**

**1.7.1 Hazardous Substance Activities**

Camp Bonneville includes the facilities where hazardous material was used and/or stored and areas where hazardous waste was reported to have been disposed of.

The buildings reported to use and/or store hazardous materials include:

<b>Building</b>	<b>Hazardous Materials</b>
1864	This facility stored 55-gallon drums of 2,4,5-T and 2,4-D and an unknown amount of DDT from 1977 to 1980, when the materials were moved to Fort Lewis.
4126	This building stored 55-gallon drums of 2,4,5-T and 2,4-D and an unknown amount of DDT until 1977, when the materials were moved to Building 1864.
4475a	Building 4475a is a hazardous materials storage unit. Antifreeze and petroleum, oil, and lubricants (POL) are stored for vehicle maintenance.
4475b	Building 4475b is a hazardous materials storage unit. Antifreeze and POL are stored for vehicle maintenance.
4476	Building 4476 contains a 55-gallon drum that is used to accumulate waste oil. The oil is picked up for disposal by an outside contractor. The disposal method for waste oil employed prior to this collection method is unknown.

Areas where hazardous waste was reported or suspected to have been disposed of are described in Table 1-6 and are shown on Figure 1-3.

### 1.7.2 Waste Management Activities

Through document reviews and the EBS site inspection conducted by Woodward-Clyde, several areas where wastes were disposed of were identified at Camp Bonneville. These disposal areas (which include landfills; grease and maintenance pits; drum and paint/solvent burial sites; and wash racks) are listed in Table 1-6 and are shown on Figure 1-3.

## 2.0 PROPERTY DISPOSAL AND REUSE

This section describes the status of the disposal planning process for the Camp Bonneville property and the relationship between the various disposal programs and environmental programs at the installation. It also identifies property transfer methods presently being used or under consideration for the disposal process.

### 2.1 STATUS OF DISPOSAL PLANNING PROCESS

The property disposal and reuse plan for Camp Bonneville addresses the various planning actions in progress for Camp Bonneville.

#### 2.1.1 Disposal Plan

A property disposal plan for Camp Bonneville is being implemented by the USACE, Seattle District, under the direction of the U.S. Army. The plan is being developed and executed in accordance with BRAC and DOD Appropriations Act closure/disposal requirements and schedules, U.S. Army disposal goals, and the reuse and redevelopment planning goals of the local community. The plan incorporates U.S. Army BRAC disposal hierarchy requirements established by Public Law 100-526 and the Federal Property and Administration Services Act of 1949, the Surplus Property Act, the Federal Property Management Regulations, and the 1994 Defense Authorization Act.

The disposal hierarchy defines the following sequence: (1) offer facility to DOD agencies; (2) offer facility to other federal agencies; (3) offer facility under Section 501 of the Stewart B. McKinney Act and subsequent legislation (i.e., the Pryor Act) (excluding property taken by DOD agencies) to sponsoring organizations for the homeless; (4) offer facility to state and local government agencies through public benefit discount conveyance; (5) offer facility to a redevelopment agency at or below fair market value through an economic development conveyance; and (6) offer the property through negotiated or competitive bid sale to the private sector.

#### 2.1.2 NEPA Documentation

National Environmental Policy Act documentation is required to evaluate the environmental impacts of significant federal actions, including the excessing, disposal, and reuse of property.

Evaluation of several disposal and reuse alternatives will be conducted in accordance with current Department of the Army (DA) policy on the preparation of disposal and reuse documents. This policy establishes a broad framework for the formulation of “unencumbered” and “encumbered” disposal alternatives and reuse of installation property by other (non-U.S. Army) parties. Encumbrances with regards to transfer of real estate refer to deed restrictions, such as binding agreements for access into and out of easements. Three disposal alternatives will be evaluated for disposal and reuse of the BRAC property: Alternative 1, disposal with encumbrances; Alternative 2, disposal without encumbrances; and Alternative 3, no action.

Under Alternative 1, the U.S. Army proposes to dispose of Camp Bonneville with the following encumbrance: a binding agreement for access into and out of easements by the FBI to its range complex.

Under Alternative 2, the U.S. Army will consider disposing of Camp Bonneville without the encumbrance previously identified as a condition of ownership transfer. To dispose of Camp Bonneville without encumbrances, the U.S. Army must ensure that easements are established by legally binding agreements. Three generalized reuse options for Camp Bonneville are being considered under this alternative. They are: returning the site to its natural state as wildlife refuge, developing the installation for recreation use, and a combination of the two.

Inclusion of Alternative 3, the no action alternative (caretaker status), is prescribed by NEPA- implementing regulations of the Council on Environmental Quality to provide a benchmark against which proposed federal actions are evaluated. Under that provision, a no action alternative would continue the current caretaker mission for Camp Bonneville. The disposal of Camp Bonneville is mandated by the base closure statute and must be implemented, unless otherwise directed by Congress. For this reason, the no action alternative is not a viable alternative for Camp Bonneville.

The disposal and reuse of Camp Bonneville, which is an action to be taken by others (e.g., the local community), will be evaluated as indirect or secondary effects of executing the U.S. Army’s legislated action under BRAC that requires the closure and excessing of this property. A variety of cumulative effects from the various property disposal and reuse alternatives will be identified. Impacts and associated mitigation measures will be identified for land use, socioeconomics, soils, geology, topography, and seismicity, public utilities and services, water resources, public health and safety,

traffic and circulation, air quality, noise, hazardous and toxic waste site remediation, vegetation, wildlife and wetland resources, visual resources, and cultural resources.

### 2.1.3 Community Reuse Plan

The development of a preferred reuse plan for Camp Bonneville is the responsibility of local planning authorities. The Clark County Board of Commissioners is the authorized LRA.

The LRA has performed preliminary planning for the reuse of Camp Bonneville. Their input has been integrated with information from Fort Lewis to produce the suggested potential reuses summarized in Table 2-1 and is shown on Figure 2-1. A number of reuses have been identified, although specific areas for reuse cannot be identified by the LRA until additional information is received and technical studies are performed. The LRA's reuse plan is due to the U.S. Army by July 21, 1997.

The LRA is applying for a reuse planning grant from the Office of Economic Adjustment for preparation of a comprehensive land use plan, reuse plan general planning, homeless outreach, infrastructure analysis, determination of the financial feasibility of proposed reuses, and safety analysis of the firing ranges. The results of these studies are not anticipated until March 1997. Consultants will be making recommendations on whether reuse planning should focus only on firing ranges or other reuses (retreat center, outdoor school, general park usage, trail).

Following are key components of the LRA's general planning strategy for reuse:

- The LRA anticipates using most of the eastern sections of the property for wildlife refuge/open space, firing fans, hiking, and equestrian activities.
- The LRA has been informed that cleanup of approximately 400 acres of impact area may not be economically feasible for many uses.
- The cantonment areas will most likely continue in a similar use, even if it is later determined that some of the present structures should be demolished.
- The meadow area south of the Camp Bonneville barracks is expected to be heavily used as a public area for many uses (amphitheater, powwows, picnics, fishing, etc.).

- The meadow area is currently used as a long distance range (the “ARF” range) and may be a wetland. If it is a wetland, the area may be used for model airplanes. If it is not a significant wetland area, there may be more intense public usage.
- In general, meadow areas on the west side of Range Road are expected to be used for public recreation areas.
- Areas east of Range Road are expected to be used for public recreation areas.
- Areas east of Range Road are being assessed for continued use as firing range areas. If safety, noise, and financial feasibility analyses indicate firing ranges are not feasible, these areas may be used for trails, paint ball, or other recreation.
- Areas throughout the property will be evaluated for camp sites. The area north of the main road at the west entrance is being considered for recreational vehicle camping.
- Training areas north of the sewage treatment facility and west of the DNR property will be assessed for additional retreat center/conference center facilities and trails.

All potential reuses are in the preliminary planning stages and are subject to change as information is received.

## 2.2 RELATIONSHIP TO ENVIRONMENTAL PROGRAMS

Disposal and reuse activities at Camp Bonneville are intimately linked to environmental investigation, restoration, and compliance activities for two reasons:

- Federal property transfers to non-federal parties are governed by CERCLA Section 120(h)(3)(B)(I) regardless of whether the properties are CERCLA sites on the National Priorities List (NPL) or non-CERCLA sites such as Camp Bonneville.
- Residual contamination may remain on certain properties after remedial actions have been completed or put into place, thereby restricting the future use of those properties. The relationship and integration of the disposal and reuse of BRAC installations to environmental programs is an iterative process, as shown on Figure 2-2.

Section 120(h)(3)(B)(i) of CERCLA requires deeds for federal transfer of previously contaminated property to contain a covenant that all remedial actions necessary to protect human health and the environment have been taken. The 1992 CERFA amendment to CERCLA provided clarification to the phrase “have been taken.” This clarification states that all remedial actions have been taken if the construction and installation of an approved remediation system has been completed, and the remedy has been demonstrated to the Administrator of EPA to be operating properly and successfully. It further states that the carrying out of long-term pumping and treating, or operation and maintenance (O&M), after the remedy has been demonstrated to the Administrator to be operating properly and successfully, does not preclude the transfer of the property. This deed requirement applies only to property on which a hazardous substance was stored for one year or more or is known to have been disposed of or released. Also, CERCLA requires that deeds for property on which a hazardous substance was stored for more than one year, released, or disposed of include information on the type and quantity of material and the time at which the storage or release occurred.

The requirements for complying with CERCLA Section 120(b), the possibility of residual contamination at the installation, and the remediation of the property considering future reuse are factored into the property disposal and reuse process at Camp Bonneville. This is accomplished in the following manner:

- Camp Bonneville has experienced releases of CERCLA hazardous substances and is consequently subject to CERCLA transfer restrictions as described above.
- Camp Bonneville is not on the NPL. However, the BRAC environmental restoration program at Camp Bonneville mirrors the CERCLA National Oil and Hazardous Substances Pollution Contingency Plan (NCP) investigative and restoration process. This process includes completion of remedial investigation/feasibility study-style investigations and interim removal actions. A critical part of these investigations and removal actions is the completion of baseline human health and ecological risk assessments based on anticipated future land use.
- The Washington Model Toxics Control Act (MTCA) Method B cleanup standards (Washington Administrative Code [WAC] 173-340) will be used as screening criteria to evaluate the need for further investigations or actions for media potentially contaminated with hazardous substances at Camp Bonneville. If determined necessary,

additional streamlined and comprehensive risk assessments may be conducted to evaluate human health and ecological risk for individual projects, based on the results of the screening evaluation and reuse plans. Because reuse plans have not been formalized, it is anticipated that wetlands, recreational, and commercial reuse scenarios would be considered in these assessments.

- The community reuse plan for Camp Bonneville is currently being prepared. Final reuse plans for Camp Bonneville are therefore not available. In order to proceed with the BRAC environmental restoration program at Camp Bonneville, the U.S. Army is considering a future recreation land use scenario for Camp Bonneville as the most likely reuse alternative. An accelerated environmental cleanup plan, which lays out a fast-track plan to remediate Camp Bonneville, has been developed using the recreation land use scenario. The U.S. Army has solicited and will continue to solicit input from the community on proposed reuse scenarios and implementation of the community reuse plan. Additional human health or ecological risk assessments that may be required for Camp Bonneville will consider the most current reuse plan.
- The presence of residual contamination at Camp Bonneville after closure and property disposal will be considered in the development of real estate transfer documentation. It is anticipated that restoration will be complete prior to property transfer. A finding of suitability to transfer and/or finding of suitability to lease (FOSL) must be prepared, regardless of whether or not remediation is complete at the time of transfer. Restrictions on development cannot be specified at this time without a detailed community reuse plan. Easements will be established to ensure U.S. Army and regulatory access to the excessed and disposal property for remedial action equipment, O&M, and long-term monitoring.

The Camp Bonneville strategy and schedule are designed to remediate sites in a manner consistent with reuse goals, but also to streamline and expedite the necessary response actions in order to facilitate the earliest possible disposal and reuse.

Because of the need to differentiate areas suitable for transfer from those that are not, a map has been developed showing the environmental condition of property using data from the base-wide EBS (see

text and figure in Section 3.4). This map presents contaminated areas and areas of no suspected contamination. The BCT will continue to update and define the environmental condition of property and reuse parcel maps for Camp Bonneville as data become available and as site investigation and restoration are completed.

## **2.3 PROPERTY TRANSFER METHODS**

The various property transfer methods used or considered in the disposal process for Camp Bonneville are described in this section. These transfer methods were identified from U.S. Army BRAC disposal protocols established by Public Law 100-526, the Federal Property and Administration Services Act of 1949, the Surplus Property Act, the Federal Property Management Regulations, and the 1994 Defense Authorization Act. The status of each of the proposed transfer methods is identified. Transfer methods that are not currently considered but which could be used in future disposal planning actions at the installation have also been identified. Figure 2-3 depicts the real property disposal process for Camp Bonneville.

### **2.3.1 Transfer to Other DOD Agencies**

The DOD screening of Camp Bonneville was completed in June 1996. Camp Bonneville was determined to be excess to the DOD, with a directive that the LRA include the range complex for FBI use in their reuse options.

### **2.3.2 Federal Transfer of Property**

Screening to identify use of Camp Bonneville by other federal agencies was completed on March 30, 1994. The FBI expressed interest in retaining their range complex on Camp Bonneville.

Screening to identify properties suitable for use by providers for the homeless is under review. The Base Closure Community Redevelopment and Homeless Assistance Act of 1994, signed into law October 25, 1994, and Title XXIX of the 1995 Defense Authorization Act amended the disposal process as it pertains to homeless screening. These pieces of legislation, referred to as the Pryor Act, require that the needs of the homeless be considered under Stewart B. McKinney Act provisions during the reuse planning process and that these needs be balanced with the need for further economic redevelopment. To accomplish this, the new process requires that screening for state, local, and homeless assistance needs be done at the local level by the LRA.

The LRA has since opted to continue screening using the Base Closure Community Redevelopment and Homeless Assistance Act of 1994. Screening is currently being conducted. The results of the screening will be incorporated into the community reuse plan.

### **2.3.3 No-Cost Public Benefit Conveyance**

State or local government entities may obtain property at no cost or less-than-fair market value when sponsored by a federal agency for uses that would benefit the public (e.g., health and education, parks and recreation, wildlife conservation, or public health). The USACE implemented an accelerated state and local real estate screening process for Camp Bonneville so the state and local requests could be available to develop reuse scenarios. State and local screening by the USACE has been completed. The County plans to apply for a public benefit discount for wildlife conservation, public park, and recreational or educational purposes.

### **2.3.4 Economic Development Conveyance**

The 1994 Defense Authorization Act provides for the conveyance of property to an LRA at or below fair market value using flexible payment terms for recoupment up front or over time. If certain criteria are met for a rural installation, conveyance may be made at no cost. Economic development conveyance is intended to promote economic development and job creation in the local community. To qualify for this conveyance, the LRA must submit a request to the DA describing its proposed economic development and job creation program. No Camp Bonneville properties are anticipated to be transferred through this method.

### **2.3.5 Competitive Public Sale/Negotiated Sale**

There is no indication at this time that Camp Bonneville will be disposed of through a competitive sale or negotiated sale.

### **2.3.6 Widening of Public Highways**

There is no indication at this time that any property at Camp Bonneville will be transferred for the widening of public highways.

### 2.3.7 Donated Property

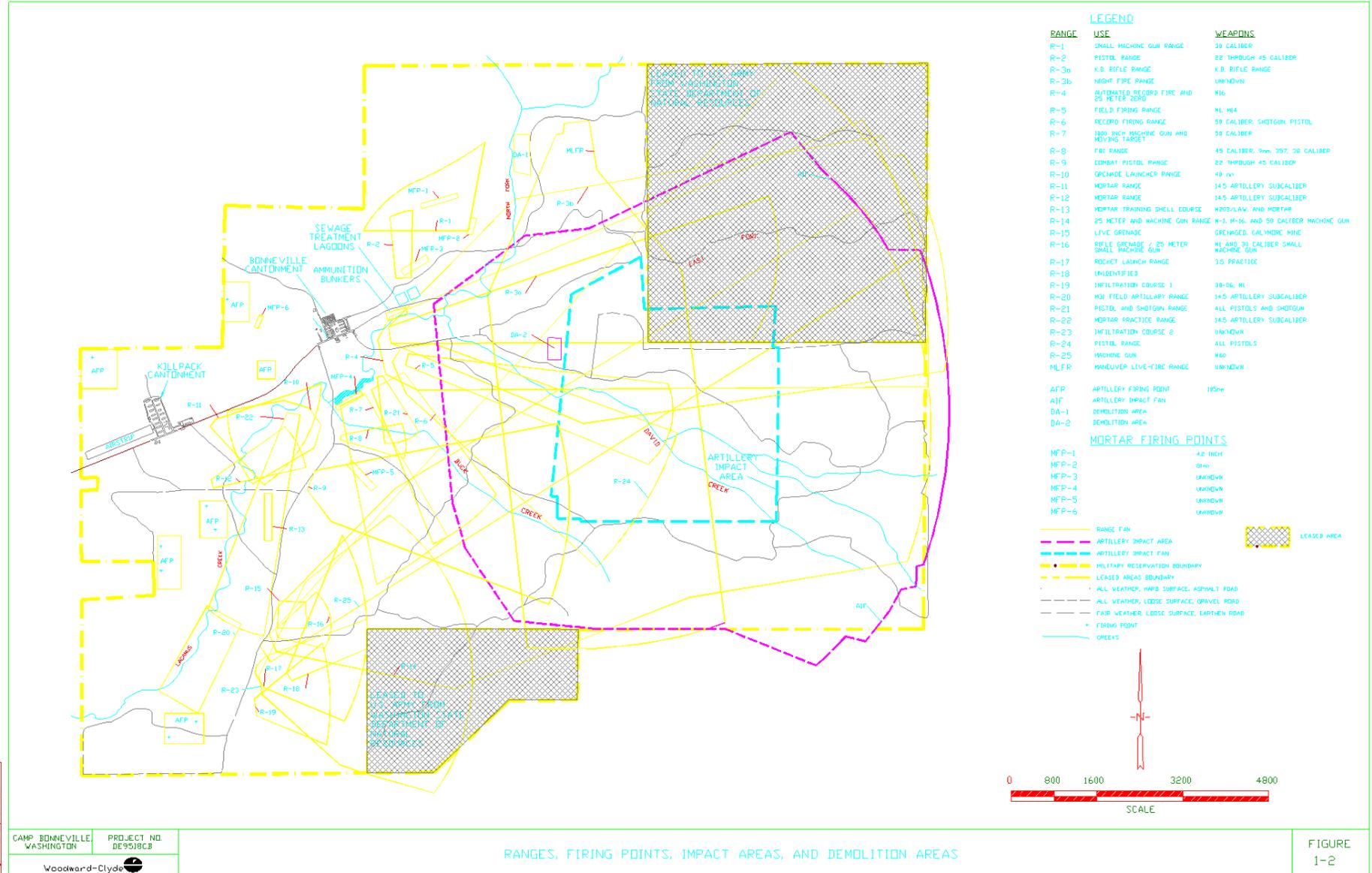
There is no indication at this time that any property at Camp Bonneville will be donated.

### 2.3.8 Interim Leases

Predisposal use of facilities by a non-U.S. Army entity can be accomplished through the execution of leases, licenses, or permits. The Military Leasing Act of 1956 (10 U.S.C. §2667), as amended, permits the U.S. Army to implement interim leasing of excess facilities if it is in the public interest. Under this provision, the lease cannot exceed one year but may be annually renewed by the U.S. Army for up to five years. A long-term lease may be instituted if it would promote national defense or be in the public interest. Prior to any leasing or permitting, the U.S. Army must complete a FOSL, documenting that the facility is clean and safe to use. Leased properties may be transferred by deed to future owners when the property is disposed. Interim leases and permits are being pursued at Camp Bonneville as a property transfer mechanism.



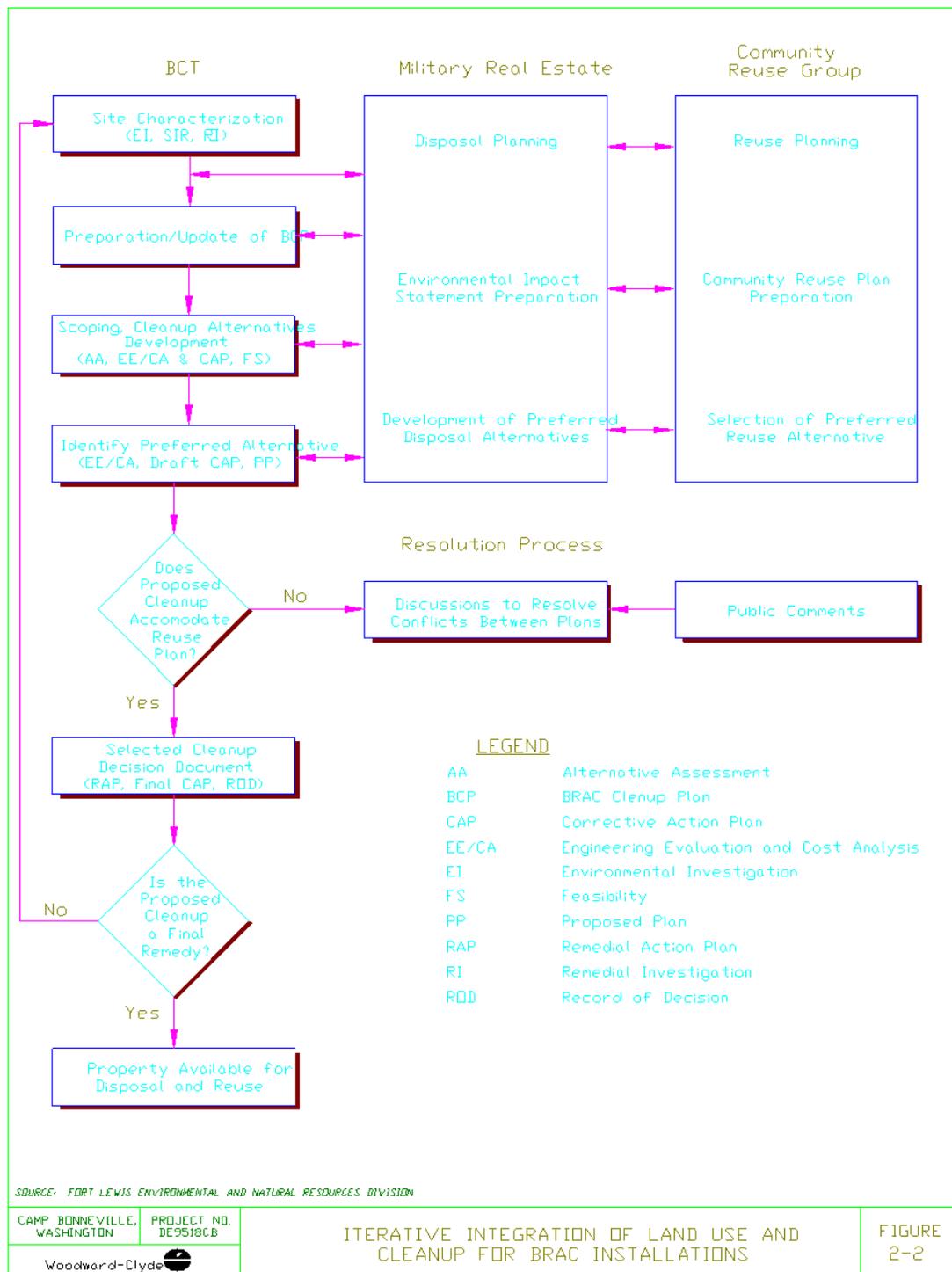
PLOT THIS 11X17 DWG USING  
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 PLOT SCALE 1=800  
 USE "WINDOW" IN THE PLOT DIALOGUE BOX







- PLOT THIS 8-1/2X11 DWG USING S:\BRAC\85X11.PCP FILE
- PLOT SCALE: 1=1
- USE "WINDOW" IN THE PLOT DIALOGUE BOX
- PICK 90° IN THE ROTATION AND ORIGIN SECTION OF THE PLOT DIALOGUE BOX
- PICK THE UPPER LEFT AND LOWER RIGHT NODE POINTS





### 3.0 INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS

This section summarizes the current status of environmental restoration projects and ongoing compliance activities at Camp Bonneville. It also summarizes the status of community involvement to date and describes the environmental condition and suitability for transfer of the BRAC parcels.

#### 3.1 ENVIRONMENTAL PROGRAM STATUS

This section presents the status of the Camp Bonneville environmental program in relation to areas of concern, installation-wide source discovery and assessment status, and other environmental concerns. All potentially contaminated sites at Camp Bonneville requiring additional investigation and/or restoration are listed in Table 3-1 and shown on Figure 3-1. These sites, which are referred to as areas of concern, may include a single potentially contaminated area (e.g., Landfill 1, Paint/Solvent Burial Site) or a group of sites with the same type of potential contaminants (e.g., firing ranges, aboveground storage tanks [ASTs]). These areas of concern were identified based on information from historical documents, interviews, and site surveys. Table 3-1 also lists the site location, site class, materials disposed of or materials associated with the area of concern, dates of operation, potential contaminants, status of the response activities, BRAC parcel number and CERFA category (discussed in more detail in Section 3.4), and the appropriate regulatory program and process under which each area of concern is being addressed. In some cases, more than one regulatory program exists. The CERCLA will be considered the primary driving environmental program on most of the sites, while other programs, such as MTCA, are considered secondary. The Clean Water Act, and particularly the National Pollutant Discharge Elimination System (NPDES), may govern the environmental program for some of the sites.

The installation-wide source discovery and assessments have been completed and documented in the Draft EBS report, which included a site visit on December 13–15, 1995. All areas of concern shown on Table 3-1 were identified in the EBS report, except for the chemical warfare burial sites. The DA informed the BCT that chemical warfare burial sites have been identified at training facilities similar in construction date and utilization to Camp Bonneville. Consequently, even though there currently is no evidence that a chemical warfare burial site exists at Camp Bonneville, the potential is recognized and will be investigated. New environmental sites may be identified as more information is discovered during the scheduled site investigations, surveys, removal actions, and site remediations.

Except for the UXO removal program, it has not yet been determined whether the asbestos, lead-based paint, and pesticide programs, will constrain land use or impact cleanup activities. The UXO archive search program has been partially funded and is currently underway. This program is expected to impact cleanup activities, because some UXO might require removal from the site before other environmental issues can be addressed.

### 3.1.1 Restoration Sites

Twenty areas of concern that will require restoration or investigation have been identified at Camp Bonneville (see Table 3-1). Fourteen of the 20 areas of concern will be addressed under the environmental restoration program. The other six areas of concern will be addressed under the compliance program (see Section 3.2). The 14 areas of concern that will be addressed under the environmental restoration program and their current investigation/restoration status are discussed in this section.

#### *Leaking Underground Storage Tank Site*

A 275-gallon diesel underground storage tank (UST) (UST #7-CMPBN) east of Building 4475 was removed in 1995. Soil samples collected by the tank removal contractor during tank removal indicated petroleum contamination in the soils surrounding the tank at concentrations above Ecology action levels.

Subsequently, an investigation was conducted that roughly identified the extent of petroleum contamination in the soil and demonstrated that regional groundwater was not impacted by the petroleum release. A report of the investigation is in preparation. A contract has been awarded for removal of petroleum-contaminated soil at the leaking UST (LUST) site. Initial coordination between USACE and the contractor is in progress. Removal of the contaminated soil is planned for November 1996. The contaminated soil will be handled under the environmental restoration program.

#### *Landfill 1*

Landfill 1 is located east of the Bonneville cantonment and north of the sewage lagoon. Evidence suggests the area was used as a sanitary-type landfill; however, neither the length of use nor a comprehensive list of the quantities and types of trash disposed of at this site is known.

Review of the scope of work for the Landfill 1 site investigation has been completed.

***Landfill 2***

Landfill 2 is located on the eastern and northern borders of the sewage lagoon. Landfill 2 was reported to have been partially excavated during the construction of the sewage lagoon around 1978. Neither the type nor quantity of material disposed of at this landfill is known.

Review of the scope of work for the Landfill 2 site investigation has been completed.

***Landfill 3***

Landfill 3, which is suspected to have been used as a trash burial site, is located south of the sewage lagoon. According to an interview conducted for the EBS, this area contains a refrigerator and a locker. Neither the length of use nor a comprehensive list of the quantities and types of trash disposed of at this site is known.

Review of the scope of work for the Landfill 3 site investigation has been completed.

***Burn Site***

An open burn site is located adjacent to Landfill 3. The area is not currently in use as a burn area, although wooden debris was piled up at the location at the time of the EBS. This area has been reportedly used on an infrequent basis to burn wood and debris. Neither the length of use nor a comprehensive list of materials burned at this site is known.

Review of the scope of work for the burn site survey (included as Option 2 to the Landfill scope of work) has been completed.

***Burned Building Site***

Buildings 1983 and 1962 were burned in place at the Bonneville cantonment. The majority of these buildings were not painted; however, those that were painted most likely were painted with lead-based paint (LBP) since they were originally built around the 1930s. Lead-based paint may have been released to the surrounding soil during the burning activities. No soil samples have been taken to test for lead contamination.

Review of the scope of work for the Burned Building Site investigation (included as Option 3 to the Landfill scope of work) has been completed.

***Drum Burial Site***

A suspected drum disposal site, located southeast of the Killpack cantonment, was identified in May 1996 by an anonymous telephone caller identifying himself to the current Camp Bonneville Facility Manager as a former facility employee. It was reported by the caller that paint and solvents were disposed of in this area. During pre-work plan scoping by the prime contractor and subcontractor, the UXO subcontractor detected anomalies in the area where the drum burial site is anticipated to be located. This investigation was preliminary in nature, and no data is available from this investigation.

Review of the scope of work for the drum burial site investigation (included as Option 4 to the Landfill scope of work) has been completed.

***Paint/Solvent Burial Site***

A suspected paint/solvent disposal site was identified in May 1996 by an anonymous caller to the current Camp Bonneville Facility Manager. The suspected paint/solvent disposal site is located southeast of the Killpack cantonment. It was reported by the caller that paint, pesticides, and solvents were disposed of in this area.

Review of the scope of work for the paint/solvent burial site investigation (included as Option 4 to the Landfill scope of work) has been completed.

***Wash Racks***

Two wash rack areas have been identified as areas where further investigation should be performed. One wash rack is located south of Building 4475. It is suspected that oil and/or antifreeze may have been released/disposed of in this area. The other wash rack is associated with Building 4476 and is an open, gravel-covered area that gently slopes toward a road. This area may also have received waste oil and antifreeze.

The scope of work for the wash rack site investigation will be prepared by the USACE and funding for the work is anticipated to be received in fiscal year 1997.

***Maintenance Pit***

Building 4475 reportedly had a maintenance pit located west of the building that is now covered with concrete. The pit was an unlined excavation in the ground that potentially received vehicle fluids such

as oil or antifreeze for an unknown period of time. Additionally, the ground south of the building, an area of approximately 4 feet by 85 feet, was noted during the EBS to have stressed vegetation and red staining. This area receives runoff from the galvanized steel roof of Building 4475.

The scope of work for the maintenance pit site investigation will be prepared by the USACE and funding for the work is anticipated to be received in fiscal year 1997.

### *Grease Pits*

Three grease pits have been identified as areas where further investigation should be conducted. Two grease pits are located at the Bonneville cantonment north of Building 1828; one is located at the Killpack cantonment east of Building 4368. The pits are composed of corrugated metal tubes, approximately 2 feet in diameter, that extend into the gravel-filled pits to an unknown depth. The pits reportedly received cooking grease and oils from the mess halls. An interview conducted for the EBS indicates there is also a potential for uncontrolled hazardous substances to have been disposed of in these pits, although this disposal method is no longer practiced.

The scope of work for the grease pits site investigation will be prepared by the USACE and funding for the work is anticipated to be received in fiscal year 1997.

### *Pesticide Storage Facility*

The pesticides DDT, 2,4,5-T and 2,4-D were stored at Building 1864 and Building 4126 in the past. Pesticides may have been released at these storage areas during transfer of the material.

The scope of work for the pesticide storage facility site investigation will be prepared by the USACE and funding for the work is anticipated to be received in fiscal year 1997.

### *Old Sewage Lagoon Site*

Sanitary wastewater was initially discharged through the Bonneville and Killpack cantonment septic tanks and leach fields. These systems were suspected of polluting Lacamas Creek with coliform bacteria. In 1978, a new sanitary wastewater treatment system was installed. The site plan called for

these septic tanks to be pumped and filled with an inert material upon completion of the treatment system (U.S. Army 1987). The treatment system consists of a pumping station, non-overflow lagoons with aerators, and a chlorine contact chamber. Wastewater is stored in the lagoons during the winter and is intended to be disposed of by spray irrigation of nearby timber during the summer. Typically, evaporation exceeds the influx rate; therefore, the irrigation system has generally not been used.

A survey will be conducted to determine the possible contamination of surrounding soils, groundwater, and Lacamas Creek due to the storage and treatment of wastewater in the lagoon.

The scope of work for the old sewage lagoon site survey will be prepared by the USACE and funding for the work is anticipated to be received in fiscal year 1997.

### *Chemical Warfare Burial Sites*

The DA informed the BCT that chemical warfare burial sites have been identified at training facilities similar in construction date and utilization to Camp Bonneville. Consequently, even though there currently is no evidence that chemical warfare burial sites exist at Camp Bonneville, their potential presence is recognized and will be investigated.

#### **3.1.2 Installation-Wide Source Discovery and Assessment Status**

Potential on-site sources of soil and groundwater contamination have been identified in the EBS. Only two sources of potential contamination had been identified prior to the EBS: the leaking 275-gallon UST removed from near Building 4475 and the vehicle wash point south of Building 4475, which was identified in a previous environmental compliance inspection as not having an oil/water separator. A visual site reconnaissance of the second potential source carried out by the EBS inspectors revealed no apparent signs of surface impacts. Other potential sources identified in the EBS are described in Section 3.1.1.

### **3.2 COMPLIANCE PROGRAM STATUS**

Because Camp Bonneville is scheduled for closure, the mission-related compliance program is not active. Most of the compliance issues at the facility will be considered under the closure-related compliance program.

Six of the areas of concern listed in Table 3-1 will be addressed under the compliance program. These areas of concern are:

- LBP
- ASTs
- The Hazardous Material Storage Area
- Asbestos
- UXO
- The chlorobenzylidene malonitrile (CS) Gas Building

This section also summarizes the status of other environmental, non-CERCLA sites/programs that were not identified as areas of concern as listed in Table 3-1.

### 3.2.1 Storage Tanks

The two USTs identified at Camp Bonneville have been removed (see Section 3.1.1). Twenty-eight ASTs were identified at Camp Bonneville during the EBS. Tables 3-2 and 3-3 summarize the former USTs and the current ASTs on site.

### 3.2.2 Hazardous Materials/Waste Management

Currently, hazardous materials and waste at Camp Bonneville are limited to materials associated with vehicle maintenance and fuel used for heating facilities. The buildings where hazardous materials are stored include:

<b>Building</b>	<b>Hazardous Materials</b>
4475a	Building 4475a is a hazardous materials storage unit. Antifreeze and POL are stored for vehicle maintenance.
4475b	Building 4475b is a hazardous materials storage unit. Antifreeze and POL are stored for vehicle maintenance.
4476	Building 4476 contains a 55-gallon drum that is used to accumulate waste oil.

**3.2.3 Solid Waste Management**

No currently active landfills exist at Camp Bonneville. Approximately 4 cubic yards of solid waste are generated monthly at Camp Bonneville and are transported to an off-site landfill under contract.

**3.2.4 Polychlorinated Biphenyls**

No polychlorinated biphenyls (PCBs) have been identified on the site. Seventeen transformers sampled in 1990 did not have PCBs above action levels.

**3.2.5 Asbestos**

An asbestos survey has not been performed at Camp Bonneville. The EBS identified potential sources of asbestos at Camp Bonneville. Buildings constructed prior to 1985 are assumed to contain asbestos in materials such as boiler and piping insulation, building siding, floor tiles and mastics, and/or roofing materials.

**3.2.6 Radon**

A radon compliance program is not planned for Camp Bonneville. A radon survey was performed at Camp Bonneville in the past; however, the survey was not performed in compliance with current regulations. Another radon survey is not planned because hydrogeological information from the U.S. Geological Survey indicates no apparent need for such a survey.

**3.2.7 RCRA Facilities**

There are no Resource Conservation and Recovery Act (RCRA) facilities at Camp Bonneville.

**3.2.8 NPDES Permits**

The current wastewater treatment plant at Camp Bonneville is the only facility that may be regulated under Clean Water Act and NPDES compliance programs. It has not been determined whether the facility has or needs an NPDES permit. Investigations to determine this have been scheduled. The wastewater treatment plant is also a compliance issue that is part of the Old Sewage Lagoon area of concern, which itself is addressed under the environmental restoration program.

### 3.2.9 Oil/Water Separators

The EBS indicates that no oil/water separators are present at Camp Bonneville.

### 3.2.10 Unexploded Ordnance

Areas identified as firing points and firing impact areas may have UXO. Unexploded ordnance has also been found outside the firing range safety fans, and an expanded area with potential UXO has been qualified for investigation. An archive search to determine the types of ordnance used at Camp Bonneville is currently in progress. Unexploded ordnance is an environmental concern that is expected to impact other remediation activities, because UXO removal may be required before other types of remediation begin at some sites.

### 3.2.11 Pesticides

Currently, there is no compliance program in place for pesticide use at Camp Bonneville. Pesticides were stored at two locations (Buildings 1864 and 4126) in the past. The investigation to determine possible contamination of these areas resulting from pesticide spills is addressed under the environmental restoration program.

### 3.2.12 Lead-Based Paint

The majority of buildings at Camp Bonneville were constructed prior to 1978 and may have LBP. Wipe tests performed on some of the buildings at the Killpack cantonment by base personnel did give positive results for LBP (McPherson 1995). In addition, exterior maintenance of some buildings at Camp Bonneville reportedly included scraping and sanding painted buildings. Lead-based paint may have been released to the soil surrounding these buildings during these activities.

An LBP survey has been completed and contaminated soil has been identified.

### 3.2.13 Other Compliance Issues

The CS Gas Building is a one-room, one-story wooden building that was used to train soldiers for chemical warfare. CS gas is a tear gas used by the military and police as a riot-control and incapacitating agent. It is a white solid powder that is usually mixed with a dispersal agent such as methylene chloride, which carries the particles through air. Over time, the building itself may have

become contaminated with CS gas. This contamination may pose a risk to demolition workers, and presence of CS gas raises issues regarding the disposal of demolition debris. It is also suspected that the building may contain LBP and asbestos. The U.S. Army has requested that this building be investigated and decontaminated as necessary.

A survey of the CS Gas Building has been completed, and the survey report has been submitted and reviewed. There is no evidence of contamination from CS gas or its degradation products. The building is scheduled for demolition.

### 3.3 STATUS OF NATURAL AND CULTURAL RESOURCES

The status of the following natural and cultural resources programs is summarized in this section: vegetation; rare, threatened, and endangered species; and cultural and historical resources.

Surveys of Camp Bonneville have been conducted. Only partial surveys were conducted in support of natural, cultural, and endangered species issues in peripheral areas of Camp Bonneville outside the range areas. Natural and cultural surveys within the range areas have not been conducted because of safety issues posed by the potential presence of UXO. Tetra Tech was awarded a contract in early September 1996 by the USACE, St. Louis District, to conduct a cultural resources survey at Camp Bonneville. This section summarizes the findings of the partial surveys identified through the records review.

#### 3.3.1 Vegetation

The vegetation at Camp Bonneville is typical of the lowland forest habitat found in western Washington. The forested areas at Camp Bonneville are second-growth timber. Lowland forests consist of Douglas fir, western red cedar, big leaf maple, Douglas maple, alder, cottonwood, madrona, and hemlock. The shrub layer within the forested portion of Camp Bonneville is composed of blackberry, salal, Oregon grape, vine maple, hazelnut, snowberry, and other native plants. Meadows near the cantonment facilities are composed of native grasses and small shrubs (Scotch broom).

#### 3.3.2 Rare, Threatened, and Endangered Species

A spotted owl survey was performed on Camp Bonneville by Stalmaster and Associates in 1994. The survey reported a single osprey that was probably a migrant. The survey noted that limitations on field

research time precluded complete coverage of Camp Bonneville and that part of the site was inaccessible because of poor road conditions.

An endangered species survey was performed in 1995 by Pentec Environmental, Inc. Field surveys were conducted for amphibians, reptiles, mammals, song and game birds, marsh birds, waterfowl and waterbirds, raptors, fish, and rare plants. The survey detected five target species (three animal species and two plant species), none of which is federal- or state-listed as threatened or endangered. Of the three animal species, two are state candidates and one is a federal candidate. In general, a candidate species is one that has been proposed for a threatened or endangered listing, but for which there is inadequate information to support that species' decline. Of the two plant species, one is state-endangered and one is state-sensitive.

Table 3-4 summarizes rare, threatened, and endangered plant or animal species associated with Camp Bonneville.

### 3.3.3 Cultural and Historical Resources

A review of the listings for National Historic Landmarks, the National Register of Historic Places, the State Register of Historic Places, and properties removed from the listings as of January 1993 did not reveal any properties or facilities located on Camp Bonneville. Additionally, the Killpack cantonment was determined ineligible for inclusion on the National Register of Historic Places by the State Historic Preservation Officer.

A cultural resource reconnaissance was performed on selected areas of Camp Bonneville in 1980 in support of forest management. The reconnaissance did not result in any significant findings. The records research did not produce evidence of any cultural resource surveys for the entire installation.

## 3.4 ENVIRONMENTAL CONDITION OF PROPERTY

During the EBS, Camp Bonneville was divided into BRAC parcels that represent the environmental condition of the property area. The BRAC parcels and corresponding CERFA categories are identified on the CERFA map (Figure 3-1). Areas containing or potentially containing non-CERCLA substances are identified and delineated separately as qualified parcels. Qualified parcels overlay all environmental condition of the property categories (Categories 1 through 7).

The seven standard “environmental condition of property” categories, as defined in the CERFA guidance and the DOD BCP Guidebook, are as follows:

**Category 1.** Areas where no storage for one year or longer, release, or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent properties). Additionally, an area where no evidence exists for the release, disposal, or migration of hazardous substances or petroleum products; however, the area has been used to store less than reportable quantities of hazardous substances (40 Code of Federal Regulations [CFR] 302.4) or 600 or fewer gallons of petroleum products.

**Category 2.** Areas where only storage of hazardous substances in amounts exceeding their reportable quantity or petroleum products exceeding 600 gallons has occurred, but no release, disposal, or migration has occurred.

**Category 3.** Areas where storage, release, disposal, or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require removal or remedial action.

**Category 4.** Areas where storage, release, disposal, or migration of hazardous substances or petroleum products has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

**Category 5.** Areas where storage, release, disposal, or migration of hazardous substances or petroleum products has occurred, and removal or remedial actions are under way, but all required actions have not yet been implemented.

**Category 6.** Areas where storage, release, disposal, or migration of hazardous substances or petroleum products has occurred, but required removal or remedial actions have not yet been initiated.

**Category 7.** Areas that are not evaluated or require additional evaluation.

Each BRAC parcel was given a number to which appropriate descriptive labels are attached. The numbers consist of a unique parcel identification number and an environmental condition of the property category number. The labels consist of a designation describing the type of contamination or

storage, if applicable. The following designations are used to indicate the type of contamination or storage present in a parcel:

PS = Petroleum storage

PR = Petroleum release or disposal

HS = Hazardous substance storage

HR = Hazardous substance release or disposal

A 25-acre grid coordinate system is overlaid on Figure 3-1 to facilitate the following parcel discussion by geographically locating the various parcels. Parcel boundaries were drawn using the best available information regarding the extent of contamination and do not follow map grid lines.

Table 3-5 summarizes the BRAC parcel descriptions. The BRAC parcels in this table have been presented in order by CERFA category. The CERFA parcels at Camp Bonneville are briefly summarized in the following sections.

#### **3.4.1 Areas Where No Storage, Release, or Disposal Has Occurred**

The EBS and subsequent parcelization of Camp Bonneville identified one parcel, estimated at 3,831 acres, as an uncontaminated CERFA parcel (Category 1).

#### **3.4.2 Areas Where Only Storage Has Occurred**

The EBS and subsequent parcelization of Camp Bonneville identified four parcels as areas where hazardous substances in amounts exceeding their reportable quantity or petroleum products exceeding 600 gallons were stored, but no release, disposal, or migration of the stored materials had occurred (Category 2). Category 2 parcels total approximately 3 acres.

#### **3.4.3 Areas Where Storage, Release, Disposal, or Migration Has Occurred, but No Remedial Action is Required**

Currently, there are no Category 3 parcels at Camp Bonneville.

**3.4.4 Areas Where Storage, Release, Disposal, or Migration Has Occurred and All Remedial Actions Have Been Taken**

Currently, there are no Category 4 parcels at Camp Bonneville.

**3.4.5 Areas Where Storage, Release, Disposal, or Migration Has Occurred and Action is Underway but Not Final**

Currently, there are no Category 5 parcels at Camp Bonneville.

**3.4.6 Areas Where Storage, Release, Disposal, or Migration Has Occurred, but Required Response Actions Have Not Been Taken**

Currently, there are no Category 6 parcels at Camp Bonneville.

**3.4.7 Unevaluated Areas or Areas Requiring Additional Evaluation**

The EBS and subsequent parcelization of Camp Bonneville identified 14 parcels as areas that are not evaluated or require additional evaluation. Category 7 parcels total approximately 6 acres.

**3.4.8 Qualified Parcels**

In determining the qualified parcels during the EBS, the following guidelines were observed:

- If a complete asbestos survey has not been conducted, then buildings constructed prior to 1985 were assumed to contain asbestos. An “A(P)” for the possible presence of asbestos was used to qualify the parcel.
- If a complete LBP survey has not been conducted, then buildings constructed prior to 1978 were assumed to contain LBP. An “L(P)” for the possible presence of LBP on the building or in the surrounding soils was used to qualify the parcel.
- Areas used as firing ranges (e.g., impact areas and firing points) are assumed to contain UXO and ammunition components (e.g., metal casings from small arms, projectiles from large ammunition). An "X" for the presence of UXO and ammunition components was used to qualify the parcel.

Forty-one parcels, encompassing an estimated 3,840 acres, are identified as qualified parcels and are listed in Table 3-5 and illustrated on the CERFA map (Figure 3-1). Forty of the 41 parcels, comprising approximately 1 acre, are qualified due to buildings potentially containing asbestos and/or LBP. The one parcel which comprises 3,381 acres is qualified because of potential UXO. Although this area comprises the entire installation, it is unlikely that UXO is present in the airstrip, Killpack Cantonment, or Bonneville cantonment areas, or along the road which leads from the entrance of the installation to the two cantonments. Where a qualified parcel is a building/facility, the acreage presented corresponds to the “footprint” of the building/facility.

### 3.4.9 Suitability of Installation Property for Transfer by Deed

The Superfund Amendments and Reauthorization Act Title 1, Section 120 to CERCLA, addresses the transfer of federal property on which any hazardous substance was stored during any one-year period or was released or disposed of. Section 120 also requires any deed for the transfer of this federal property to contain, to the extent such information is available from a complete search of agency files, the following information:

- A notice of the type and quantity of any hazardous substance storage, release, or disposal
- Notice of the time at which such storage, release, or disposal took place
- A description of what, if any, remedial action has occurred
- A covenant warranting that appropriate remedial action will be taken

Under SARA Title 1, Section 120 to CERCLA, those parcels which are Category 1, 2, 3, 4, and 5 (if the remedy in place has been approved by the Administrator) meet the CERCLA criterion of being suitable for transfer to a non-federal entity. Category 6 and 7 properties which involve releases of hazardous substances as defined by CERCLA cannot be transferred to a non-federal entity under CERCLA until environmental restoration is initiated. The categorization process also provides valuable information regarding which property is available for unrestricted reuse because it has no environmental restrictions (Category 1 through 4), and which property is undergoing remedial action and may therefore have property reuse restrictions (Category 5).

Camp Bonneville has parcels totaling an estimated 3,834 acres that have been classified as CERFA Category 1 through 4. These parcels, described in Sections 3.4.1 through 3.4.4, are suitable for transfer to a non-federal entity according to CERCLA. The remaining approximately 6 acres of Camp Bonneville, discussed in Sections 3.4.5 through 3.4.7, have been classified as CERFA Category 5 through 7 parcels. These parcels cannot be transferred to a non-federal entity under CERCLA until environmental restoration is initiated.

In addition to issues identified in the EBS related to hazardous substances, transfer of property may also be affected by the presence of other potential hazards, including USTs, asbestos-containing material (ACM), LBP, and UXO. If present, these issues qualify the parcels for transfer with the expectation that additional assessment and/or abatement may be required prior to transfer. However, the property is available for lease or transfer with appropriate disclosure of presence or restrictions on property use. Lease or transfer is intimately linked to intended end use and the status of programs intended to mitigate these safety hazards.

### 3.5 STATUS OF COMMUNITY INVOLVEMENT

There has been no community involvement to date. Plans will be developed, prepared, and implemented as soon as possible.

- **Information Repositories.** Information repositories were set up in accordance with the RAB and are located in the Vancouver Mall branch library and in the Clark County Department of Public Works Building on 13th and Ester in Vancouver, Washington.
- **Administrative Record.** An administrative record file has been established in the BRAC Environmental Coordinator's office.
- **Restoration Advisory Board.** A RAB information meeting was held to promote community interest and to solicit comments on the cleanup process. This initial meeting was held in the Killpack Mess Facility located on Camp Bonneville. Future RAB meetings will be held at locations to be determined by the RAB. Since the first meeting, the BEC's office has received 17 applications. All persons that submitted applications were placed on the RAB. The first RAB meeting was conducted on September 16, 1996, at which time the members were briefed in detail on the functions of a RAB and reminded of the document repositories. A temporary community co-

chair was elected at this meeting. A permanent community co-chair will be selected at a future meeting. The RAB will establish a Technical Review Committee as applicable.

- **Community Relations Plan.** A community relations plan has not been developed at this time.
- **Community Involvement Plan.** A community involvement plan has not been developed at this time.



## SECTION FOUR INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION

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### 4.0 INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION

This section discusses and summarizes the installation-wide environmental restoration strategies for Camp Bonneville.

#### 4.1 AREA DESIGNATION STRATEGY

This section reflects the relationship between areas of concern and the BRAC parcels. Reuse parcels have not yet been identified for Camp Bonneville. The priorities and sequence for investigation and cleanup, which reflect a balance between risk to human health and the environment and the reuse priority of a parcel awaiting remedial action, were determined by the BCT and LRA.

##### 4.1.1 Designations

The investigation and remediation of potential areas of contamination at Camp Bonneville will be discussed by areas of concern as identified in Section 3.1. The areas of concern were identified based on information from historical documents, interviews, and site surveys. Currently, there are 20 areas of concern at Camp Bonneville that have planned or ongoing investigations. These areas of concern are listed in Table 3-1. Fourteen of the 20 areas of concern are addressed under the environmental restoration program as discussed in Section 3.1.1; the remaining six areas of concern are covered under the compliance program as discussed in Section 3.2.

##### 4.1.2 Sequence

The sequence for investigating the areas of concern at Camp Bonneville is presented in Table 4-1. To date, investigation has been completed for one area of concern under the environmental restoration program (the location of a former leaking 275-gallon UST (UST #7, PCS/LUST Site) at Building 4475) and two areas of concern under the compliance program (the LBP sites and CS Gas Building). Statements of work have been developed and reviewed for the landfill sites (Landfills 1, 2, and 3), burn sites (open burn site and burned building site), and burial sites (drum burial site and paint/solvent burial site). Scopes of work for other areas of concern addressed under the environmental restoration program are currently under review. A contract has been awarded for removal of contaminated soil from the LUST site. Contracts will be awarded for investigations at the other areas of concern at Camp Bonneville.

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**4.1.3 Early Actions Strategy**

There is not sufficient information at this time to make a determination for early actions. However, early actions will be instituted when appropriate to accelerate the cleanup process.

**4.1.4 Remedy Selection Approach**

The areas of concern require investigations to estimate the nature and extent of contamination and the extent of cleanup required at each area. For most areas of concern, the investigations are part of contract actions that consist of two phases: investigation and potential remedial actions. At the completion of the investigation at each site, potential remedial actions will be evaluated. The BCT will evaluate the type of contaminants discovered, contamination concentration and extent, potential risk to human health and the environment, and potential land reuse options. Based on available information, the BCT will determine an appropriate remedial action. Potential remedial actions may include no further action, removal of contamination, treatment of contamination, restriction of land use, immobilization of contamination, and/or monitoring.

Presumptive remedies will be used during remedy selection whenever possible. Presumptive remedies are preferred remedial technologies for common categories of sites and are based on past patterns of remedy selection and performance data. Presumptive remedies are expected to reduce cost and time required to clean up similar sites by streamlining site investigation and remedy selection.

**4.2 COMPLIANCE PROGRAM STRATEGY**

Compliance programs at Camp Bonneville are initiated and monitored by the Fort Lewis ENRD. As the non-restoration missions at Camp Bonneville are withdrawn, the responsibility to maintain compliance programs will be transferred from ENRD to the BCT. At this time, the status of the compliance programs is being summarized by ENRD for transmission to BCT. Once the information transfer is complete, strategies and schedules for implementing compliance programs under the BRAC process will be established.

**4.2.1 Storage Tanks**

As discussed in Section 3.2.1, there are currently 28 ASTs identified at Camp Bonneville. Investigations are being scheduled to ensure that the ASTs are in compliance and to evaluate whether contamination due to incidental spillage during tank filling exists at the AST sites.

#### 4.2.2 Hazardous Materials/Waste Management

Investigations to evaluate whether contamination exists at the hazardous material/waste storage areas will be conducted. As hazardous materials such as waste oil, antifreeze, and pesticides are encountered during site investigation/cleanup, these materials will be managed on-site to the extent practicable. The strategy is to manage hazardous material so that the conditionally exempt small quantity generator status (40 CFR 261.5) is not violated at Camp Bonneville.

#### 4.2.3 Solid Waste Management

The strategy for solid waste management is intended “to deal with” solid waste encountered during site investigations. The solid waste will be disposed of off-site at applicable locations.

#### 4.2.4 Polychlorinated Biphenyls

There are no compliance issues identified pertaining to PCBs at Camp Bonneville. Therefore, compliance strategies pertaining to PCB issues at Camp Bonneville are not required.

#### 4.2.5 Asbestos

A scope of work for an asbestos survey has been prepared and is expected to be awarded in Fiscal Year 1997. It is anticipated that the Site Facility Manager has asbestos disposal records from ongoing asbestos maintenance work and that those records will be reviewed during the asbestos survey program.

#### 4.2.6 Radon

There are no compliance issues identified pertaining to radon at Camp Bonneville. Therefore, compliance strategies pertaining to radon at Camp Bonneville are not required.

#### 4.2.7 RCRA Facilities

There are no RCRA facilities at Camp Bonneville. As discussed in Section 4.2.2, the strategy at Camp Bonneville is to manage hazardous material so that the conditionally exempt small quantity generator status is not violated during site investigation/cleanup. However, if hazardous materials do accumulate to amounts which exceed the conditionally exempt small quantity generator status, a waste generator

## SECTION FOUR INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION

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EPA ID number will be acquired and all applicable RCRA regulations will be followed. Because Camp Bonneville is a sub-installation of Vancouver Barracks, one alternative may be to use the Vancouver Barracks EPA ID number. This alternative would require additional investigation.

### 4.2.8 NPDES Permits

It is not known whether the wastewater treatment plant at Camp Bonneville has or needs an NPDES permit. Investigations to determine this have been scheduled.

### 4.2.9 Oil/Water Separators

There are no oil/water separators at Camp Bonneville. Therefore, compliance strategies pertaining to oil/water separators at Camp Bonneville are not required.

### 4.2.10 Unexploded Ordnance

The U.S. Army has developed a strategy to address UXO issues at Camp Bonneville. As discussed in Section 3.2.10, areas identified as firing points, firing impact areas, and some areas outside the firing range safety fans at Camp Bonneville may have UXO. The strategy for the cleanup of UXO at Camp Bonneville pertains to these areas.

A typical BRAC UXO project is performed in three phases: the archive search, UXO survey and sampling, and UXO removal. The archive search report is currently in progress at Camp Bonneville. If needed, survey and sampling will be accomplished, and UXO removal, if necessary, will follow, depending on recommendations in the archive search report. If the archive search report recommends no further action, the UXO effort will be complete.

### 4.2.11 Pesticides

There are no pesticides currently used or stored at Camp Bonneville. Therefore, compliance strategies pertaining to pesticide use at Camp Bonneville are not required.

### 4.2.12 Lead-Based Paint

An LBP/soil-metal survey has been completed, and the survey report is being prepared. The LBP/soil-metal survey program consisted of two parts and one option: Part 1, LBP survey; Part 2, soil-metal contamination survey; and Option 1 of Part 2, soil-lead survey. The LBP paint survey did not include a

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survey of exterior fencing or playground equipment. The USACE plans to survey these materials in the near future.

The LBP survey was a systematic inspection and survey of the interior and exterior of all structures and associated equipment (exterior fencing, storage sheds, playground equipment, etc.) to locate LBP. The findings will be submitted in the form of an LBP survey report.

The soil-metal survey consisted of an investigation for contamination of non-vegetated areas surrounding selected buildings. The contaminants of concern are lead, zinc, and copper resulting from runoff from buildings with corrugated metal roofs. The soil-lead survey included an investigation for soil contamination resulting from LBP flaking from buildings and falling onto the soil. Areas of contaminated soil have been identified. Additional soil sampling is being tasked.

### 4.2.13 CS Gas Building

As discussed in Section 3.2.13, the U.S. Army has requested that the CS Gas Building be decontaminated and demolished. A survey of the building has been completed, and the survey report has been submitted and reviewed. There is no evidence of contamination from CS gas or its degradation products. The building is scheduled for demolition in fiscal year 1997.

## 4.3 NATURAL AND CULTURAL RESOURCES STRATEGY

Fort Lewis Environmental and Natural Resources Division is the lead agency for cultural resources. A contract was awarded in early September 1996 and a notice to proceed was issued with the scope of work to provide a cultural resources survey of the Camp Bonneville installation. The schedule for services and deliverables is being finalized at this time.

## 4.4 COMMUNITY INVOLVEMENT/STRATEGY

A community relations plan must be developed to facilitate communication among the U.S. Army and other federal, state, and local agencies; interested groups; and community residents concerning BRAC activities at Camp Bonneville. This communication will ensure that all parties involved or interested are provided with accurate, consistent information in a timely manner concerning related cleanup activities, contaminants, and possible effects of any contamination. The plan also provides mechanisms for all parties to provide input into the BRAC decision-making process at Camp Bonneville.

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**4.4.1 Establishment of the Restoration Advisory Board**

The establishment of a RAB is a requirement of the fast track cleanup policy at specific BRAC installations where community interest is high and property will be available for transfer to the community. The RAB will act as a forum for the exchange of cleanup information between the community and the government to ensure that community concerns are adequately addressed and to ensure that RAB input is fully considered in decision-making for the cleanup program. The RAB includes members from the U.S. Army, USACE, EPA, Ecology, and Clark County. The RAB is chaired jointly by the U.S. Army and community representatives. The first meeting took place September 16, 1996.

**4.4.2 Community Relations Program**

The Camp Bonneville BCT has adopted the following strategy to support a proactive community relations program in accordance with the CERCLA requirements:

- Plan and prepare community relations plan
- Establish and maintain an information repository at Camp Bonneville or local library that is accessible to the public
- Establish and maintain an administrative record
- Publish fact sheets on the progress of environmental restoration and disposal programs
- Maintain mailing list
- Continue coordination with the LRA task force
- Hold public meetings

## 5.0 ENVIRONMENTAL PROGRAM MASTER SCHEDULES

This section presents the Camp Bonneville master schedules of anticipated activities for the installation's environmental programs. These schedules are simplified from detailed network and operational schedules developed to support site-specific work plans and compliance agreements. Projected environmental restoration activities are graphically summarized on Figure 5-1. Compliance activities are summarized on Figure 5-2.

### 5.1 ENVIRONMENTAL RESTORATION PROGRAM

This section provides the response schedules and fiscal year requirements for the environmental restoration program for Camp Bonneville.

#### 5.1.1 Response Schedules

The estimated schedule for environmental response actions for Camp Bonneville is shown on Figure 5-1. Response action schedules were developed by the BCT after evaluating the potential risks associated with each project. Priorities were established as the BCT attempts to reconcile potential parcel reuse with the need to protect human health and the environment. Figure 5-1 provides the master schedule based on the current status of investigations at Camp Bonneville. The master schedule is subject to change as additional information becomes available for evaluation by the BCT.

Each environmental response action shown on Figure 5-1 is separated into an investigation phase and potential remedial action. The requirements for remedial action at each area of concern scheduled for investigation have not been determined. The estimated remedial action schedules, therefore, are long-range targets provided only for planning purposes. The BCT will establish more definite restoration schedules after investigations are completed by evaluating risks to human health and the environment, land reuse priorities, remedial alternatives, and achievable construction schedules.

#### 5.1.2 Requirements by Fiscal Year

The financial requirements by fiscal year for the environmental restoration program at Camp Bonneville are summarized in Table A-1 in Appendix A.

## 5.2 COMPLIANCE PROGRAMS

This section provides the master schedules and fiscal year requirements for environmental compliance programs at Camp Bonneville.

### 5.2.1 Master Compliance Schedule

Camp Bonneville is currently closing all non-restoration-related missions. Most of the compliance issues at the facility are under the closure-related compliance program. The master compliance schedule is presented on Figure 5-2.

### 5.2.2 Requirements by Fiscal Year

The financial requirements by fiscal year for the compliance programs at Camp Bonneville are summarized in Table A-1 in Appendix A.

## 5.3 NATURAL AND CULTURAL RESOURCES

This section includes a schedule for completing the following natural and cultural resources evaluations: rare, threatened and endangered species; sensitive habitats; archaeological resources; historic structures and resources; Native American resources; paleontological resources; and wetlands, surface waters, and floodplains, as applicable. Camp Bonneville is selected for closure under the BRAC Act. This designation constitutes a federal action under the National Historic Preservation Act, requiring Section 106 assessment to determine the presence of and eligibility for the National Register of Historic Places of cultural resources at Camp Bonneville.

There are two categories of cultural resource assessment needed at Camp Bonneville: buildings and archaeology. Buildings at both the Bonneville and Killpack cantonments will be inventoried. An archaeological survey of areas outside the cantonments will be prioritized based on proposed land use. A programmatic agreement will be undertaken on the assessment procedure.

### 5.3.1 Master Natural and Cultural Resources Program Schedules

Tetra Tech was awarded a contract in early September 1996 by the USACE, St. Louis District, to provide a cultural resources survey of Camp Bonneville. The schedule for services and deliverables is being finalized at this time.

**5.3.2 Requirements by Fiscal Year**

Tetra Tech was awarded a contract in early September 1996 by the USACE, St. Louis District, to provide a cultural resources survey of Camp Bonneville. The funding for services is being finalized at this time.

**5.4 BCT/PROJECT TEAM/RAB MEETING SCHEDULE**

Meetings are scheduled as required by the applicable process (i.e., RAB meetings and BCT meetings are held monthly) and as needed. Table 5-1 summarized past BCT and RAB meetings.



## 6.0 TECHNICAL AND OTHER ISSUES TO BE RESOLVED

This section summarizes technical and other issues that are yet to be resolved. These issues include information management; the usability of historical data; data gaps; natural (background) levels of elements and compounds in soil, groundwater, surface water, and sediments; risk assessment; state cleanup standards; and program initiatives to complete cleanup requirements as required to meet property transfer schedules. A summary of unresolved technical and other issues for Camp Bonneville is provided in Table 6-1.

### 6.1 DATA USABILITY

This section summarizes issues that need to be resolved with regard to managing information gathered and used in the base environmental restoration and compliance programs.

#### 6.1.1 BCT Action Items

The BCT and Camp Bonneville should continue to ensure the acceptability of data generated in order to provide improved information management during the BRAC environmental restoration process.

#### 6.1.2 Rationale

Historical analytical data can contribute to the completion of site characterizations and risk assessments by filling data gaps. Current and future data from each data collection system (e.g., field laboratories, field-screening techniques) are critical to the completion of all site characterization efforts, comprehensive conceptual model development, risk assessments, and, ultimately, selection of remedial actions to protect human health and the environment.

#### 6.1.3 Status/Strategy

The BCT is currently reviewing existing environmental documents. Additional site characterization studies will be undertaken as necessary.

## 6.2 INFORMATION MANAGEMENT

This section identifies issues that need to be resolved with regard to managing information gathered and used in the installation's environmental restoration and compliance programs. Issues include:

- Improve coordination of, access to, and management of environmental restoration and real estate-type data generated at Camp Bonneville
- Ensure that all investigation data from Camp Bonneville has been loaded into the Installation Restoration Program Information Management System (IRPIMS); these electronic data management systems should be implemented for Camp Bonneville and will be based at and maintained by the USACE
- Require all contractors to submit data in electronic format that can be readily loaded into the IRPIMS
- Establish method/procedure to distribute data to parties (EPA, Ecology, real property contractors, Camp Bonneville, etc.) with the need for an installation perspective on activities at Camp Bonneville
- Develop provisions for real-time data input of field decisions to expedite the progress of BRAC field work

### **6.2.1 BCT Action Items**

There is currently one BCT action item that should be addressed at Camp Bonneville in order to manage data during the environmental restoration process: the information transfer system (IRPIMS) should be made available to each BCT member.

### **6.2.2 Rationale**

As the number of agencies and contractors associated with Camp Bonneville's disposal and environmental restoration program grows, it is important that all parties involved be able to share data for decision making. The establishment and maintenance of an electronic database of sampling and analysis data and spatial data (e.g., real estate maps) are the most efficient methods of sharing data among parties.

### **6.2.3 Status/Strategy**

A strategy will be developed by the BCT for BRAC cleanup activities at Camp Bonneville.

### 6.3 DATA GAPS

Unresolved issues pertaining to the determination and collection of data needed to complete the Camp Bonneville environmental restoration program are discussed below.

#### 6.3.1 BCT Action Items

There are significant gaps in existing data because Camp Bonneville has just recently embarked on the BRAC process. The project team is currently preparing scopes of work for surveys and site investigations designed to close existing data gaps.

#### 6.3.2 Rationale

Identifying and filling data gaps will permit the development of comprehensive conceptual site models for site characterization and risk assessment. Effective analysis of data gaps will also facilitate the completion of environmental restoration and compliance efforts, so that appropriate remedial actions can be identified and evaluated. This information will also facilitate the identification of clean areas at Camp Bonneville.

#### 6.3.3 Status/Strategy

Any decision making and decision documents will be based on results and findings from the data collected at each area of concern at Camp Bonneville.

### 6.4 BACKGROUND LEVELS

Little background data exist for the Camp Bonneville site. Ecology's *Natural Background Soil Metals Concentrations in Washington State* provides background concentrations of metals. Sites with metals concentrations exceeding risk screening levels will be compared to the Washington state background concentrations. Because of localized variation in background concentrations, if metals concentrations are higher than the state background concentrations, consideration will be given to conducting a localized background sampling event. A soil metals background sampling has been included as Option 7 in the landfill Scope of Work.

#### 6.4.1 BCT Action Items

No action is anticipated until background levels are researched and established by the technical team.

### **6.4.2 Rationale**

The determination of background levels for metals is essential to evaluating whether concentrations potentially exceeding risk-based soil criteria are due to natural conditions or installation-related activities.

### **6.4.3 Status/Strategy**

Information on background levels of soil metals will be determined by the technical team in the near future. As data quality objectives for sites are established and concentrations of contaminants in the environment are detected, consideration will be given to the need to collect background data for comparison purposes.

## **6.5 RISK ASSESSMENTS**

At this time, there are no issues to be resolved pertaining to risk assessments. Most sites at Camp Bonneville have just recently been identified as potentially contaminated. The next step will be to conduct the level of sampling typical for a site investigation to identify whether releases to the environment have occurred. The chemical data collected at this stage will be compared to Ecology's MTCA Method B cleanup levels as screening criteria. If concentrations for a given site are lower than these levels, the site will be considered for no further action. If concentrations are higher than these levels, further investigation may be necessary. Risk assessments meeting CERCLA standards may be necessary to evaluate whether remediation is necessary. Consideration will be given to use of the industrial and recreational scenarios for the risk assessments.

## **6.6 BASE-WIDE REMEDIAL ACTION STRATEGY**

At this time, there are no issues to be resolved pertaining to the base-wide remedial action strategy at Camp Bonneville.

## **6.7 INTERIM MONITORING OF GROUNDWATER AND SURFACE WATER**

At this time, there are no issues to be resolved pertaining to interim monitoring of groundwater and surface water at Camp Bonneville.

### 6.8 EXCAVATION OF CONTAMINATED MATERIALS

At this time, there are no issues to be resolved pertaining to excavation of contaminated materials at Camp Bonneville.

### 6.9 PROTOCOLS FOR REMEDIAL DESIGN REVIEWS

At this time, there are no issues to be resolved pertaining to protocols for remedial design reviews. The established protocol for remedial design reviews will be followed. The USACE will provide internal review of any remedial design reports prepared internally or by a contractor. The regulatory agencies and the BCT will be included in the review process.

### 6.10 CONCEPTUAL MODELS

At this time, there are no issues to be resolved pertaining to conceptual models that may be used at Camp Bonneville. To assist in focusing and decision-making, conceptual site models are theorized, calculated, written, and drawn up. Conceptual site models for each area of concern will be developed and refined as investigation of the area of concern progresses and more information becomes available. Currently, little is known about the areas of concern listed for investigation. As investigations progress and more information about the areas of concern becomes available, a conceptual site model will be developed and fine-tuned for each area to better display site-specific assumptions regarding sources, pathways, and receptors.

### 6.11 CLEANUP STANDARDS

At this time, there are no issues to be resolved pertaining to cleanup standards that may be applied to Camp Bonneville. As a federal facility, Camp Bonneville is not required to clean up to levels more stringent than CERCLA-derived cleanup goals. However, because the property may be transferred to non-federal landowners, future owners may be required to clean up to state standards. In order to minimize federal liability for potential future cleanup, both CERCLA risk-based goals and Ecology's MTCA Method B and Method C levels will be considered by the BCT when determining cleanup goals for individual sites.

### **6.12 INITIATIVES FOR ACCELERATING CLEANUP**

At this time, there are no issues to be resolved pertaining to initiatives for accelerating cleanup. For areas of concern where a limited number of contaminants were identified, the investigation phase will be limited to acquiring adequate information to scope the remedial action or determine that the constituents of concern are not a threat to human health or the environment. For example, at the former UST site near Building 4475, investigations roughly estimated the extent of petroleum contamination in the soil and demonstrated that regional groundwater was not impacted by the petroleum release. The remedial action was scoped without additional investigation because the site concerns were relatively simple.

The investigation at each area of concern at Camp Bonneville will be phased in a manner that allows the project team to evaluate whether the costs of investigation are reasonable considering the cost of restoration. In these instances, the BCT will determine where adequate information exists to proceed directly to the remedial effort.

### **6.13 REMEDIAL ACTIONS**

At this time, there are no issues to be resolved pertaining to remedial actions at Camp Bonneville.

### **6.14 REVIEW OF SELECTED TECHNOLOGIES FOR APPLICATION OF EXPEDITED SOLUTIONS**

At this time, there are no issues to be resolved pertaining to the review of selected technologies.

### **6.15 HOT-SPOT REMOVALS**

At this time, there are no issues to be resolved pertaining to the removal of hot-spots.

### **6.16 IDENTIFICATION OF CLEAN PROPERTIES**

At this time, there are no issues to be resolved pertaining to the identification of clean properties.

### **6.17 OVERLAPPING PHASES OF THE CLEANUP PROCESS**

At this time, there are no issues to be resolved pertaining to overlapping phases of the cleanup process. Only a few areas of potential overlapping phases are foreseen for the environmental cleanup process on

Camp Bonneville. This is partly because full funding for the UXO archive research, the UXO search and disposal, and the NEPA survey work is not anticipated to be authorized until fiscal year 1997. To enable environmental investigations and remedial actions at Camp Bonneville to commence and continue in an expeditious manner, the UXO survey/disposal and the NEPA considerations/review on select sites will be undertaken in conjunction with the environmental investigation work and will overlap. For example, the environmental investigations of the Camp Bonneville landfills, burn sites, and potential drum burial sites, the UXO work and NEPA work will (for safety and regulatory compliance) be conducted prior to any other site work, will occur as part of the same contract action, and will be performed prior to most of the Camp Bonneville UXO survey/disposal and NEPA review work.

### 6.18 IMPROVED CONTRACTING PROCEDURES

At this time, there are no issues to be resolved for improved contracting procedures. The USACE, Seattle District, has several existing contracting tools to assist in the accomplishment of the environmental restoration work at Camp Bonneville. Surveys, investigations, sampling, design, and drilling are accomplished using the current indefinite delivery type contracts. These include two contracts for Architect Engineer/Geotechnical/Environmental Services, one Professional Environmental Engineering Services contract, one Drilling Services contract, and one Basic Ordering Agreement. The Basic Ordering Agreement is a full service five-year agreement with the Small Business Administration under which any type of environmental restoration work may be issued to a pre-selected group of small and minority-owned businesses for accomplishment. The agreement is currently used for numerous environmental remediation and support service projects. Construction support may also be provided through the use of the Job Order Contract. This type of contract works well for non-specialized general construction projects.

In support of the identified mission at Camp Bonneville, the USACE, Seattle District, is now in the process of increasing its environmental contracting capabilities. To increase design/investigation capacity, two new Architect Engineer contracts are scheduled for procurement in early fiscal year 1997.

Additional rapid contracting support for the restoration work at Camp Bonneville may be accomplished by Small Purchase Request or through Invitation for Bid processes for larger projects with longer lead times.

The current and planned contracting tools are expected to be sufficient to accomplish assigned tasks at Camp Bonneville. Should situations or specialized tasks arise, the USACE, Seattle District, is prepared to acquire suitable contract vehicles to expeditiously perform the work.

### **6.19 INTERFACING WITH THE COMMUNITY REUSE PLAN**

At this time, there are no issues to be resolved pertaining to interfacing with the community reuse plan for Camp Bonneville. The Camp Bonneville LRA has been established. Janice Davin is the coordinator of the LRA. This group will work with the community to provide a plan for the proposed future use of the land. The U.S. Army will review the plan, select the appropriate cleanup standards, and facilitate implementation of remedial alternatives, ultimately resulting in a successful transfer of property.

### **6.20 BIAS FOR CLEANUP INSTEAD OF STUDIES**

At this time, there are no issues to be resolved pertaining to bias for cleanup instead of studies at Camp Bonneville. The BCT will evaluate the information available for each area of concern and determine the necessity of conducting investigations. In select cases, the benefits of conducting an investigation are not proportional to the costs of the investigation. In these cases, project funding is better used to conduct remedial actions. The BCT will evaluate the following information to determine whether remedial actions can commence with minimal study:

- Identified contaminants of concern
- Estimated extent of contamination
- Potential risk to human health and the environment
- Benefit-to-cost ratio of investigation
- Estimated cost of remedial action

### **6.21 EXPERT INPUT ON CONTAMINATION AND POTENTIAL REMEDIAL ACTIONS**

At this time, there are no issues pertaining to expert input on contamination and potential remedial actions at Camp Bonneville. The Camp Bonneville BCT is committed to using expert input during the

scoping, execution, and review of the individual environmental investigation projects and remedial actions. Such expertise will be drawn primarily from:

- USACE, Seattle District, as the Geographical Project Manager for the Camp Bonneville environmental restoration work and as a technical representative to the BCT
- EPA Region 10 as a regulatory BCT member
- Ecology as a regulatory BCT member
- Contractors employed to perform scopes of work on the various projects at Camp Bonneville during the environmental investigation and restoration work

On occasion, the BCT will seek expertise from other USACE districts, such as the St. Louis and Huntsville Districts, for UXO archive research and UXO survey/removal expertise.

The BCT also anticipates making use of developed expertise in programs like the EPA's "Best Developed and Available Technologies" to complete the environmental cleanup actions at Camp Bonneville.

## 6.22 PRESUMPTIVE REMEDIES

At this time, there are no issues pertaining to the use of presumptive remedies at Camp Bonneville. Presumptive remedies are preferred remedial technologies for common categories of sites and are based on past patterns of remedy selection and performance data. Presumptive remedies are expected to reduce the cost and time required to clean up similar sites by streamlining site investigation and remedy selection. Such remedies are expected to be used at appropriate sites.

The EPA has drafted guidance on the evaluation of particular presumptive remedies at federal facilities, including military installations. These guidance documents typically discuss a step-by-step approach used to determine whether the presumptive remedy is appropriate for application at a particular site based on site-specific information.

It is anticipated that as environmental projects are scoped for the Camp Bonneville BRAC process, the application of presumptive remedies will be evaluated. An example of this procedure is the assessment of the three identified landfills at Camp Bonneville and the applicability of the CERCLA Municipal Landfill Remedy to Military Landfills (EPA/540/F-96/007) to their cleanup.

For this particular presumptive remedy, the characteristics of the landfills, such as size and waste types present, will be determined and compared with “typical” military landfill characteristics. The presumptive remedy guidance for military landfills discusses these typical characteristics. The guidance document also describes how this information is used to determine the appropriateness of the presumptive remedy for each landfill. A similar process will be followed for other site projects with which a presumptive remedy is associated.

### **6.23 PARTNERING (USING INNOVATIVE MANAGEMENT, COORDINATION, AND COMMUNICATION TECHNIQUES)**

At this time, there are no issues to be resolved pertaining to the issue of partnering at Camp Bonneville. The BCT for the Camp Bonneville BRAC 95 work determined at the first Camp Bonneville BCT meeting in March 1996 that it would be advantageous to develop a mission statement or partnering agreement for the BCT. Voting members of the BCT (the Camp Bonneville BRAC Environmental Coordinator, EPA Region 10 point of contact, and Ecology point of contact), as well as technical support members of the BCT (USACE, Seattle District) and the Camp Bonneville LRA point of contact, participated in the development of the mission statement (Figure 6-1). The statement highlights the BCT's commitment to using modern communication conveniences to their utmost, maximizing good communication opportunities and minimizing unnecessary delays on decisions and review times. The mission statement highlights the BCT members' intent to work together whenever possible and to enhance the fast-track cleanup of environmental problems at Camp Bonneville per BRAC 95 program guidance.

### **6.24 UPDATING THE EBS AND NATURAL/CULTURAL RESOURCES DOCUMENTATION**

The draft EBS for Camp Bonneville was completed in April 1996, and all technical review comments concerning the document were received by Woodward-Clyde by May 1996. Woodward-Clyde has prepared a response to comments letter that is being distributed enroute to all Camp Bonneville draft EBS reviewers as of August 15, 1996. The U.S. Army Forces Command has directed Woodward-

Clyde to submit the revised draft EBS following publication of the draft BCP for Camp Bonneville. It is anticipated that the draft final EBS will be published by October 28, 1996.

### **6.25 IMPLEMENTING THE POLICY FOR ON-SITE DECISION MAKING**

At this time, there are no issues to be resolved pertaining to implementing the policy for on-site decision making. As indicated in the Camp Bonneville BCT mission statement (see Section 6.23 and Figure 6-1), the BCT is committed to good communications and teamwork. Productive monthly BCT meetings and ongoing discussion of individual environmental restoration project goals and project methods will enable the BCT to empower the on-site decision makers for the individual projects. The USACE, Seattle District, is the current technical and restoration lead agency for the environmental restoration work at Camp Bonneville. The USACE policy allows technical decision making to take place at the lowest possible levels to facilitate progress on projects. The Camp Bonneville BCT is committed to empowering the USACE to use its in-house policies for authorization of decision making by project managers and field personnel. The USACE Geographic Project Manager and any assigned field work quality assurance representatives will ensure that BCT members are informed of significant site or procedural changes and/or developments on individual Camp Bonneville projects or program issues.



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**APPENDIX A**

**FISCAL YEAR FUNDING REQUIREMENTS/COSTS**



**APPENDIX B**

**WEAPONS AND AMMUNITION OF CAMP BONNEVILLE  
1918 TO 1974**



**TABLE ES-1**  
**BRAC CLEANUP PLAN (BCP) ABSTRACT**  
**DEPARTMENT OF DEFENSE COMPONENT: FORSCOM**

<b>Installation Name:</b> <u>Camp Bonneville Military Reservation</u>	<b>Date Prepared:</b> <u>October 1996</u>
<b>FFID:</b> <u>NA</u>	<b>BRAC Round:</b> <u>IV</u>
<b>Location:</b> <u>Clark County, Washington</u>	<b>BRAC Type:</b> <u>Closure</u>

**INSTALLATION SUMMARY**

Scheduled Operational Closure Date: <u>1996 - 12</u>	Date CERFA EBS Submitted: <u>1996 - 03</u>
Actual Operational Closure Date: <u>undetermined</u>	Number of CERFA Acres Proposed: <u>3,831</u>
Total Number of Installation Acres: <u>3,840 (820 leased)</u>	Number of CERFA Acres Concurred: <u>0</u>
Acres Retained by Component: <u>0</u>	Date CERFA Concurrence Received: <u>NA</u>
Acres to be Transferred to another Component: <u>undetermined</u>	Date BCT Formed: <u>1996 - 03</u>
Acres Planned for Federal Transfer: <u>undetermined</u>	Date Initial BCP Completed: <u>1996 - 11</u>
Acres Planned for Non-Federal Transfer: <u>undetermined</u>	Date of Last BCP Update: <u>NA</u>
	Date RAB Established: <u>1996 - 09</u>

Total Number of Acres Environmentally Suitable for Transfer (Category 1-4): 3,834  
Total Number of Acres Eligible for Disposal: 3,840

Types of Acres	Category of Environmental Condition of Property						
	1	2	3	4	5	6	7
Acres according to CERCLA	3,831	3	0	0	0	0	6

Types of Environmental Condition	Number of Acres
Petroleum, oils, and lubricants	0
Unexploded ordnance	2,851
Areas that require protection because of the presence of natural or cultural resources	0

Activity	Installation Budget (\$000)								
	FY95 (request)	FY96 (received)	FY97 (request)	FY98 (request)	FY99	FY00	FY01	FY02	FY03 Completion
Restoration	0	300	5	0					
Compliance	0	315	4,825	3,500					
Planning	231	0	0	400					
Management	0	0	0	0					
<b>TOTAL</b>	231	615	4,830	3,900					

**REUSE PLANNING STATUS**

Name of LRA: Clark County Board of Commissioners  
Status of the Redevelopment Plan: Redevelopment Plan being drafted  
Projected Date of Installation-Wide Disposal and Reuse EA/EIS: Undetermined  
Actual Date of Installation-Wide Disposal and Reuse EA/EIS: Not applicable  
Final Property Disposal Date: December 1999 (projected date)

Actual Acres Leased to Federal Entity: <u>0</u>	Actual Acres Transferred to Federal Entity: <u>0</u>
Actual Acres Leased to Non-Federal Entity: <u>0</u>	Actual Acres Transferred to Non-Federal Entity: <u>0</u>

	FOST	FOSL
Cumulative <b>NUMBER</b> Completed	0	0
Cumulative <b>ACRES</b> Completed	0	0
<b>NUMBER</b> Projected in Next Fiscal Year	undetermined	undetermined
<b>ACRES</b> Projected in Next Fiscal Year	undetermined	undetermined

**TABLE ES-1  
BRAC CLEANUP PLAN (BCP) ABSTRACT  
DEPARTMENT OF DEFENSE COMPONENT: FORSCOM (continued)**

**RESTORATION PROGRAM**

**Summary:**

Fourteen areas of concern have been identified which are addressed under the Environmental Restoration Program. The 14 areas of concern are: LUST Site, Landfill 1, Landfill 2, Landfill 3, Burn Site, Burned Building Site, Drum Burial Site, Paint/Solvent Burial Site, Wash Racks, Maintenance Pit, Grease Pits, Pesticide Storage Facility, Old Sewage Lagoon Site, and Chemical Warfare Burial Sites. To date, investigation work has been initiated for one area of concern under the restoration program: the location where the leaking 275-gallon UST was discovered (UST #7, PCS/LUST Site at Building 4475). A restoration contract has been awarded for the removal of petroleum contaminated soil at the LUST site. Contracts are to be awarded for investigation work at the other areas of concern.

	Site Name	Date
Final Remedy in Place/Response Complete:	<u>undetermined</u>	<u>undetermined</u>
Long-Term Monitoring	<u>undetermined</u>	<u>undetermined</u>

**COMPLIANCE PROGRAM**

**Summary:**

In addition to issues identified in the EBS related to hazardous substances, transfer of property may also be affected by the presence of other potential hazards, including asbestos-containing material, lead-based paint, and UXO. If present, these issues qualify the parcels for transfer with the expectation that additional assessment and/or abatement may be required prior to transfer. However, the property is available for lease or transfer with appropriate disclosure of presence or restrictions on property use.

**Asbestos:**

Asbestos is present at the facility. A scope of work for an asbestos survey has been prepared and is expected to be awarded in Fiscal Year 1997.

**Lead-Based Paint:**

Lead-based paint is suspected to be present on some buildings and in the soil at some areas of Camp Bonneville. A lead-based paint/soil metal survey has been completed and the survey report preparation is in progress. The lead-based paint survey did not include a survey of the exterior fencing or playground equipment. The USACE plans to survey these materials in the near future.

**Unexploded Ordnance:**

The entire installation, including firing points, firing impact areas, and some areas outside the firing range safety fans at Camp Bonneville may have unexploded ordnance (UXO). Areas that are unlikely to have UXO include the airstrip, Killpack Cantonment, Bonneville Cantonment, and along the road which leads from the entrance of the installation to the two cantonments. An Archive Search Report is currently in progress. Based on recommendations in the Archive Search Report, surveys, sampling, and UXO removal may be required.

**CS Gas Building:**

The U.S. Army has requested that the CS Gas Building be decontaminated and demolished. A survey of the building has been completed, and the draft report indicates that decontamination of the building is not required.

**CONSERVATION PROGRAM**

**Summary:**

Because of safety issues due to potential presence of UXO within the range areas, natural and cultural resources and endangered species surveys have been conducted in peripheral areas of Camp Bonneville outside the range areas only. Fort Lewis has retained a contractor to conduct a cultural resources survey at Camp Bonneville.

**TABLE ES-1  
BRAC CLEANUP PLAN (BCP) ABSTRACT  
DEPARTMENT OF DEFENSE COMPONENT: FORSCOM (continued)**

**FAST-TRACK CLEANUP SUMMARY**

**Summary:**

The investigation at each area of concern at Camp Bonneville will be phased in a manner which allows the BCT to optimize the costs of investigation compared to the cost of restoration. In these instances, the BCT will determine where adequate information exists to proceed directly to the remedial effort.

Presumptive remedies will be used during remedy selection whenever possible. Presumptive remedies are preferred remedial technologies for common categories of sites, based on past patterns of remedy selection and performance data. Presumptive remedies are expected to reduce cost and time required to cleanup similar sites by streamlining site investigation and remedy

**BCT CONCURRENCE**

The BCP Abstract has been reviewed and concurred to by the BCT:	YES	NO
DoD BEC: _____ Paula Wofford BRAC Environmental Coordinator Fort Lewis ENRD	<input type="checkbox"/>	<input type="checkbox"/>
US EPA BCT Member: _____ Kathleen Stryker BRAC Project Manager U.S. EPA Region 10	<input type="checkbox"/>	<input type="checkbox"/>
State BCT Member: _____ Christopher Maurer BCT Representative Washington Department of Ecology	<input type="checkbox"/>	<input type="checkbox"/>

**TABLE 1-1  
BCT/PROJECT TEAM MEMBERS**

NAME	AFFILIATION	TELEPHONE NUMBER/ FAX NUMBER/ E-MAIL	ROLE/ RESPONSIBILITY
<b>BCT Members</b>			
Paula Wofford	Fort Lewis ENRD	Phone: (206) 967-5337 FAX: (206) 964-2488 E-Mail: pwofford@lewis-deh2.army.mil	BEC ENRD
Kathleen Stryker	EPA Region 10	Phone: (206) 553-1171 Fax: (206) 553-0957 E-Mail: stryker.kathleen@epamail.epa.gov	BRAC Project Manager
Christopher Maurer	Ecology	Phone: (360) 407-7223 Fax: (360) 407-7154 E-Mail: cmau461@ecy.wa.gov	BCT Representative
<b>Project Team Members</b>			
Ron Blackledge	FORSCOM	Phone: (404) 669-6306	BRAC Project Manager
Victor Bonilla	FORSCOM	Phone: (404) 669-6346	Restoration Management
Ed Hill	FORSCOM	Phone: (404) 669-6361	NEPA
Marvin Walden	FORSCOM	Phone: (404) 669-6364	BRAC Project Manager
Charles Lechner	USAEC	Phone: (410) 671-1613	DA Oversight
Tony Salema	Fort Lewis DRM	Phone: (314) 331-8784	Fort Lewis BRAC Transition Coordinator
Grady May	Fort Lewis BECO	Phone: (206) 967-8536 Fax: (206) 967-9036 E-Mail: grady.may@lewis-deh2.army.mil	Project Oversight
Joe Hitt	Fort Lewis PAO	Phone: (206) 967-0156	Fort Lewis PAO Officer
Joe Henry	Fort Lewis	Phone: (206) 967-7211	Real Property Specialist
Shelly Simcox	Fort Lewis JAG	Phone: (206) 967-0789	Legal Counsel
Sandra Parr	Fort Lewis BECO	Phone: (206) 967-8435 E-Mail: sparr@lewis-deh2.army.mil	RAB Administrative Coordinator
Claudette Elliott	USACE, Seattle District	Phone: (206) 764-3524	Community Relations Facilitator
William Graney	USACE, Seattle District	Phone: (206) 764-3494 Fax: (206) 764-6795 E-Mail: william.p.graney@nps.usace.army.mil	Geographic Project Manager
Dina Ginn	USACE, Seattle District	Phone: (206) 764-4478 Fax: (206) 764-6795 E-Mail: dina.r.ginn@nps.usace.army.mil	BRAC Project Manager (USTs)
Rochelle Ross	USACE, St. Louis District	Phone: (314) 331-8784	Project Manager, UXO Archive Search
Bill Myers	Ecology	Phone: (360) 407-7238 Fax: (360) 407-7154	Hydrologist
<b>Contractors</b>			
Woodward-Clyde	Contractor	Phone: (206) 343-7933 Fax: (206) 343-0513	EBS/BCP
Hart Crowser	Contractor	Phone: (206) 324-9530	Various investigations
Tetra Tech	Contractor	Phone: (415) 974-1221	NEPA
Shannon and Wilson	Contractor	Phone: (206) 632-8020	Landfill investigations

**Notes:**

BCP: BRAC Cleanup Plan  
 BCT: BRAC Cleanup Team  
 BEC: BRAC Environmental Coordinator  
 BECO: BRAC Environmental Coordinator Office  
 BRAC: Base Realignment and Closure  
 DA: Department of the Army  
 DRM: Defense Reutilization and Marketing  
 EBS: Environmental Baseline Survey  
 Ecology: Washington State Department of Ecology  
 ENRD: Environmental and Natural Resources Division

EPA: U.S. Environmental Protection Agency  
 FORSCOM: Forces Command  
 JAG: Judge Advocate General  
 NEPA: National Environmental Policy Act  
 PAO: Public Affairs Office  
 RAB: Restoration Advisory Board  
 USACE: U.S. Army Corps of Engineers  
 USAEC: U.S. Army Environmental Center  
 UST: Underground storage tank  
 UXO: Unexploded ordnance

**TABLE 1-2  
BONNEVILLE CANTONMENT FACILITIES**

<b>BUILDING NUMBER</b>	<b>CONSTRUCTION TYPE</b>	<b>YEAR BUILT</b>	<b>PAST USE</b>	<b>CURRENT USE</b>
1815	Metal building with a concrete floor.	1976	Well Pump House	Well pump house
1826	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1927	Barracks	Barracks
1828	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1933	Barracks	Barracks
1833	Wood building with a concrete floor. The HVAC is electric-powered.	1927	Latrine	Latrine
1834	Wood building with a wood floor. This building has no HVAC.	1927	Training Chamber	This facility is not currently in use.
1837	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1927	Barracks	Barracks
1847	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1927	Barracks	Barracks
1848	Wood building with a wood floor. The forced air HVAC is powered by two 275-gallon diesel ASTs.	1933	Mess Hall	Mess Hall
1857	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1927	Barracks	Barracks
1864 <sup>a</sup>	Wood building with transite siding and a concrete floor. This building has no HVAC.	1955	Grounds Shop	Grounds Shop. Storage of miscellaneous grounds equipment including 3 all-terrain vehicles, small gas containers, and car size batteries.
1867	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1927	Barracks	Barracks
1911	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1933	Barracks	Barracks
1920	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1933	Barracks	Barracks
1922	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1933	Barracks	Barracks
1930	Wood building with a wood floor. This building has no HVAC.	1933	Cold Storage	Storage

BUILDING NUMBER	CONSTRUCTION TYPE	YEAR BUILT	PAST USE	CURRENT USE
1932	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1933	Barracks	Barracks
1934	Wood building with a concrete floor. The HVAC is electric powered.	1933	Latrine	Latrine
1940	Wood building with a wood floor. The forced air HVAC is powered by two 275-gallon diesel ASTs.	1933	Day Room/AAFES Branch	Day Room/Classroom
1942	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1933	Barracks	Barracks
1962	Unknown	1933	Unknown	Burned
1963	Wood building with a wood floor. This building has no HVAC.	1928	Storage	Storage. This building stores construction materials, such as paint, wood, sacks of concrete, and nails.
1980	Wood building with a wood floor. The forced air HVAC is powered by a 275-gallon diesel AST.	1928	Command Post	Command Post
1983	Unknown	Unknown	Outdoor Theater	Burned
1992	Metal building with a concrete floor. This building has no HVAC.	1978	Water Well Pump House	Water Well Pump House
1995	Metal building with a concrete floor. This building has no HVAC.	1978	Sewage Treatment Chemical Storage	Sewage Treatment Chemical Storage. This building stores sodium hypochlorite, typically up to 10 gallons.
1997	Concrete	1978	Sewage Lift Station	Sewage Lift Station
2663	Concrete building with a concrete floor. This building has no HVAC.	1952	Water Treatment Chemical Storage	Water Treatment Chemical Storage. This building stores sodium hypochlorite, typically up to 10 gallons.
2950	Subsurface concrete building with a concrete floor. This building has no HVAC.	1976	Ammunition Bunker	Ammunition Bunker. This building stores the various types of ammunition brought on site by units using the facility.

**TABLE 1-2  
BONNEVILLE CANTONMENT FACILITIES (continued)**

<b>BUILDING NUMBER</b>	<b>CONSTRUCTION TYPE</b>	<b>YEAR BUILT</b>	<b>PAST USE</b>	<b>CURRENT USE</b>
2951	Subsurface concrete building with a concrete floor. This building has no HVAC.	1976	Ammunition Bunker	Ammunition Bunker. This building stores the various types of ammunition brought on site by units using the facility.
2953	Subsurface concrete building with a concrete floor. This building has no HVAC.	1976	Ammunition Bunker	Ammunition Bunker. This building stores the various types of ammunition brought on site by units using the facility.

**Notes:**

AST: Aboveground storage tank

HVAC: Heating, ventilation, air conditioning

(a): Information regarding hazardous materials/waste management associated with this facility is discussed in Section 3.4.1.



**TABLE 1-3  
KILLPACK CANTONMENT FACILITIES**

<b>BUILDING NUMBER</b>	<b>CONSTRUCTION TYPE</b>	<b>YEAR BUILT</b>	<b>PAST USE</b>	<b>CURRENT USE</b>
4125	Wood frame structure with a dirt floor. This building has no HVAC.	1958	Storage	Storage. This open structure is used as a carport to store vehicles.
4126 <sup>a</sup>	Wood building with a wood floor. This building has no HVAC.	1958	Storage	No longer in use.
4155	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Housing
4314	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4316	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4325	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4327	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4337	Wood building with a concrete floor. The HVAC is electric-powered.	1935	Latrine	Latrine
4345	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4348	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4356	Wood building with a wood floor. The HVAC is electric-powered.	1936	Barracks	Barracks
4364	Wood building with a concrete floor. The HVAC is electric-powered.	1935	Latrine	Latrine
4366	Wood building with a wood floor. The HVAC is electric-powered.	1936	Barracks	Barracks
4368	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4377	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4378	Wood building with a concrete floor. This building has no HVAC.	1935	Storage	Storage. This building stores items associated with grounds maintenance, such as lawnmowers, small gasoline containers, 32-ounce containers of oil, and weed whackers.
4387	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Barracks
4389	Wood building with a wood floor. The HVAC is electric-powered.	1935	Mess Hall	Mess Hall
4398	Wood building with a wood floor. The HVAC is electric-powered.	1935	Barracks	Range Control
4475	Wood building with a concrete floor. This building has no HVAC.	1937	Vehicle Maintenance	Vehicle Maintenance. This building is used to store vehicles and items associated with vehicle repair.

BUILDING NUMBER	CONSTRUCTION TYPE	YEAR BUILT	PAST USE	CURRENT USE
4475a <sup>a</sup>	Metal shed with a metal floor.	1992	Hazardous Materials Storage	Hazardous Materials Storage. This building was observed to store a 55-gallon drum of oil and several containers of antifreeze.
4475b <sup>a</sup>	Metal shed with a metal floor.	1992	Hazardous Materials Storage	Hazardous Materials Storage. This building was observed to store 4 55-gallon drums of oil, 4 55-gallon drums of antifreeze, and 8 55-gallon drums of transmission oil.
4476 <sup>a</sup>	Cinder block shed with a concrete floor.	1990	Covered Storage	Covered Vehicle Maintenance Storage. This building stores miscellaneous supplies for vehicle maintenance, including a 55-gallon drum used to collect waste oil.
4476a	Metal roof with concrete secondary containment.	1994	1,000-gallon AST	This building is covered storage for a 1,000-gallon AST with secondary containment.
4483	Wood building with a concrete floor.	1993	Fire Station	Fire Station. Relocated fire station stores one fire truck.
4522	Metal building with a concrete floor.	1950	Water Well Pump Building	Water well pump building

**Notes:**

AST: Aboveground storage tank

HVAC: Heating, ventilation, air conditioning

(a): Information regarding hazardous materials/waste management associated with this facility is discussed in Section 3.4.1.

**TABLE 1-4  
RANGE NUMBERS, USE, AND WEAPONS TYPE**

<b>RANGE NUMBER</b>	<b>USE</b>	<b>WEAPONS</b>
R-1	Small Machine Gun Range	.30 caliber
R-2	Pistol Range	22 through 45 Caliber
R-3a	K.D. Rifle Range	M1, M14
R-3b	Night Fire range	NA
R-4	Automated Record Fire and 25 Meter Zero	M16
R-5	Field Firing Range	M1, M14
R-6	Record Firing Range	50 caliber, shotgun, pistol
R-7	1,000 Inch Machine Gun and Moving Target	50 caliber
R-8	F.B.I. Range	45 caliber, 9 mm, 357, 38 caliber
R-9	Combat Pistol Range	22 through 45 caliber
R-10	Grenade Launcher Range	40 mm
R-11	Mortar Range	14.5 Artillery Subcaliber
R-12	Mortar Range	14.5 Artillery Subcaliber
R-13	Mortar Training Shell Course	M203, LAW, and mortar
R-14	25 meter and Machine Gun Range	M-1, M-16, and 50 caliber machine gun
R-15	Live Grenade	Grenades, Claymore mine
R-16	Rifle Grenade/25 Meter Small Machine Gun	M1 and 30 caliber small machine gun
R-17	Rocket Launch Range	3.5 Practice
R-18	Unidentified	NA
R-19	Infiltration Course 1	30-06, M1
R-20	M31 Field Artillery Range	14.5 Artillery Subcaliber
R-21	Pistol and Shotgun Range	All pistols and shotgun
R-22	Mortar Practice Range	14.5 Artillery Subcaliber
R-23	Infiltration Course 2	Unknown
R-24	Pistol Range	All Pistols
R-25	Machine Gun	M60
MLFR	Maneuver Live-Fire Range	Unknown
AFP	Artillery Firing Point	105 mm

**Note:**

NA: Not available

**TABLE 1-5  
HISTORY OF INSTALLATION OPERATIONS**

<b>PERIOD</b>	<b>TYPE OF OPERATION</b>	<b>CONFIRMED OR SUSPECTED HAZARDOUS SUBSTANCE ACTIVITY</b>	<b>GEOGRAPHIC AREA</b>
Early 1900s-unknown	Waste disposal	Solid waste, sanitary waste disposal	Landfill 1 - east of Bonneville cantonment and north of sewage lagoon
1920s-present	Firing range	Unexploded ordnance, lead shots from firing activities	Firing points, impact areas, and ammunition storage areas located at various sites
1920/30-recent	Gas mask training	Release of CS gas during training of soldiers for chemical warfare	Building 1834
1920/30-present (ASTs) Unknown-1995 (USTs)	POL storage	Release of POL at storage areas (during transfer, due to leaks, etc.)	ASTs and USTs located at various sites
1935-recent	Waste disposal	Hazardous substance disposal	Grease pits at Killpack and Bonneville cantonment dining facilities
1935-present	Chemical storage	Release of hazardous substance at storage areas (during transfer, due to leaks, etc.)	Buildings 4475, 4476
1940-1950	Waste disposal	Solid waste, medical waste, hazardous waste, toxic waste disposal	Landfill 2 - eastern and northern borders of sewage lagoon
1966-present	Drum disposal	Metal drum, paint, pesticide disposal	500 feet southeast of Killpack cantonment
1966-present	Paint/solvent disposal	Paint, pesticide disposal	Southeast of Killpack cantonment
Late 1970s	Waste disposal	Solid waste, hazardous waste, toxic waste disposal	Landfill 3 - south of sewage lagoon
1978-1994	Vehicle washing	Disposal of waste oil and antifreeze	Wash racks in vicinity of Buildings 4475, 4476
Unknown	Open pit burning	Wood, construction debris, solid waste burning	Burn pit east of Landfill 3
Unknown	Building burning	Release of lead-based paint during building burning	Buildings 1962, 1983
Unknown	Building maintenance	Release of lead-based paint to adjacent soil during paint removal activities	Various sites
Unknown	Vehicle maintenance	Disposal of vehicle fluids	Maintenance pit west of Building 4475
Unknown-1980	Pesticide storage	Release of hazardous substance at storage areas (during transfer, due to leaks, etc.)	Buildings 1864, 4126
Unknown-late 1980s	Local civic and nonprofit organization use (e.g., religious retreat, Boy Scout camp, high school environmental studies, State Highway Patrol pistol training)	None	NA

**Notes:**

AST: Aboveground storage tank

CS gas: Chemical used by the military and police as a riot-control and incapacitating agent

NA: Not available

POL: Petroleum, oil, and lubricants

UST: Underground storage tank

**TABLE 1-6  
SUMMARY OF KNOWN AND SUSPECTED DISPOSAL AREAS**

<b>DISPOSAL AREA</b>	<b>GEOGRAPHIC AREA</b>	<b>DESCRIPTION</b>
Landfill 1	East of Bonneville cantonment and north of the sewage lagoon	A cultural resources survey performed in 1980 located a landfill east of the Bonneville cantonment and north of the sewage lagoon. The cultural resources survey describes the site as a 4 meter by 5 meter shallow depression and states that bottle fragments contained in the landfill date its use to the early 1900s. Neither the length of use nor a comprehensive list of the quantities and types of trash disposed of at this site is known.
Landfill 2	Eastern and northern borders of the sewage lagoon	This landfill was reported to have been partially excavated during the construction of the sewage lagoon in approximately 1978. According to an interview conducted for the EBS, fill material was unearthed at the eastern and northern borders of the sewage lagoon. Neither the type nor quantity of material disposed of at this landfill is known. The period of use is estimated at 1940-1950.
Landfill 3	South of the sewage lagoon	This landfill, which is suspected to have been used as a trash burial area, is located south of the sewage lagoon. According to an interview conducted for the EBS, this area contains a refrigerator and a locker. Neither the length of use nor a comprehensive list of the quantities and types of trash is known. The period of disposal is estimated to be in the 1970s.
Grease Pits	Buildings 1828 and 4368	Two grease pits are located at the Bonneville cantonment north of Building 1828, and one is located at the Killpack cantonment east of Building 4368. The pits are composed of corrugated metal tubes, approximately 2 feet in diameter, that extend into gravel-filled pits to an unknown depth. The pits reportedly received cooking grease and oils from the mess halls. This disposal method is no longer practiced. An interview conducted for the EBS indicates there is a potential for the uncontrolled disposal of potentially hazardous substances in these pits. This was not confirmed visually during the on-site EBS survey due to the depth of the pits and the presence of nonhazardous refuse (i.e., soda cans, paper products) in the pits. The period of disposal is estimated to be from 1935 to recently.
Drum Burial Site	Reportedly southeast of Killpack cantonment	A suspected drum disposal site was identified in May 1996 by an anonymous telephone caller, identifying himself as a former facility employee to the current Camp Bonneville Facility Manager. The suspected drum disposal site is located southeast of the Killpack cantonment. It was reported by the caller that paint and solvents were disposed of in this area. Metal anomalies have been confirmed at this location. The period of disposal is estimated to be after 1966.
Paint/Solvent Burial Site	Reportedly southeast of Killpack cantonment	A suspected paint/solvent disposal site was identified in May 1996 by an anonymous caller to the current Camp Bonneville Facility Manager. The suspected paint/solvent disposal site is located southeast of the Killpack cantonment. It was reported by the caller that paint, pesticides, and solvents were disposed of in this area. The period of disposal is estimated to be after 1966.
Wash Racks	One wash rack south of Building 4475, one outside Building 4476	The first wash rack, associated with Building 4475, was identified in one of the previous environmental compliance inspections performed at Camp Bonneville. The wash rack does not have an oil/water separator. The second wash rack, associated with Building 4476, is an open gravel-covered area that gently slopes toward the road. The wash racks may have received waste oil and antifreeze during their period of use.
Maintenance Pit	Building 4475	Building 4475 reportedly had a maintenance pit located west of the building that is now covered with concrete. The pit was an unlined excavation in the ground that potentially received vehicle fluids such as oil or antifreeze for an unknown period of time. Additionally, the ground south of the building, approximately 4 feet by 85 feet, was noted during the EBS to have stressed vegetation and red staining. This area receives runoff from the galvanized steel roof of Building 4475.
Chemical Warfare Burial Sites	Unknown sites	The Department of the Army informed the BCT that chemical warfare burial sites have been identified at training facilities similar to Camp Bonneville in construction date and utilization. There currently is no evidence that a chemical warfare burial site exists at Camp Bonneville; however, the potential is recognized and included here.
Burn Pit	Burn pit east of Landfill 3	This area has been reportedly used on an infrequent basis to burn wood and debris. The area is not currently in use as a burn area. Wood debris has been observed disposed in this area.

**Notes:**

BCT: BRAC Cleanup Team

EBS: Environmental baseline survey

**TABLE 2-1  
POTENTIAL LAND REUSE SCENARIOS**

AREA	POTENTIAL USE <sup>A</sup>
Training Area 1	Outdoor school; retreat center, shared use of the kitchen facilities by many groups; camping areas for recreational vehicles; potential development of additional retreat center sites east of Killpack cantonment.
Training Area 2	Recreational usage; camping; trails
Training Area 3	Recreational usage; camping; trails
Training Area 4	Recreational usage; camping; trails
Training Area 5	Recreational usage; camping; trails
Training Area 6	Recreational usage; camping; trails
Training Area 7	Recreational usage; camping; trails
Training Area 8	Recreational usage; camping; trails
Training Area 9	Recreational usage; camping; trails
Training Area 10	Heavy recreational usage; multi-purpose
Training Area 11	Retreat center development; trails; camping
Training Area 12	Retreat center; trails; camping; outdoor school; Native American cultural center; conference center; camping
Training Area 13	Retreat center; trails; camping
Training Area 14	Recreational; retreat center; trails; camping
Training Area 15	FBI firing range; other firing ranges; southern portion firing ranges or trails/recreational usage; camping
Training Area 16	Wildlife area/open space; firing fans; trails; camping
Training Area 17	DNR property, not in LRA reuse plan; zoned for forestry
Training Area 18	DNR property; not in LRA reuse plan; zoned for forestry

**Notes:**

(a): The activities shown in this column are suggested land uses. They have not been evaluated for environmental impact or feasibility and are not approved.

DNR: Department of Natural Resources

FBI: Federal Bureau of Investigation

LRA: Local Reuse Authority

**TABLE 3-1  
AREA OF CONCERN SUMMARY**

CURRENT SITE NAME AND DESCRIPTION	BRAC PARCEL NUMBER AND CERFA CATEGORY <sup>(1)</sup>	LOCATION	SITE CLASS	MATERIALS DISPOSED OF	DATES OF OPERATION	POTENTIAL CONTAMINANTS OF CONCERN	STATUS OF RESPONSE	REGULATORY PROGRAM/ PROCESS
LBP/Soil Metals	1-1833Q, 1-1980Q, 1-4155Q, 1-4314Q, 1-4316Q, 1-4325Q, 1-4327Q, 1-4337Q, 1-4345Q, 1-4348Q, 1-4356Q, 1-4364Q, 1-4366Q, 1-4368Q, 1-4377Q, 1-4378Q, 1-4387Q, 1-4389Q, 1-4398Q, 7-1826Q, 7-1828Q, 7-1837Q, 7-1847Q, 7-1848Q, 7-1857Q, 7-1867Q, 7-1911Q, 7-1920Q, 7-1922Q, 7-1930Q, 7-1932Q, 7-1934Q, 7-1940Q, 7-1942Q, 8-1963Q, 9-1864Q, 10-1834Q, 12-4475Q, 16-4125Q, 16-4126Q	Various locations	Non-IRP	LBP, metals	1920s - present	Lead, metals in soil	Survey completed	CERCLA (primary), MTCA, RCRA (secondary)
CS Gas Building	10(7)	Building 1834, Bonneville cantonment	Non-IRP	CS gas	1920/30 - recent	Lead-based paint, ACM, CS gas	Survey completed	TSCA, HUD, AHERA
UST #7, PCS/LUST	15(7)	Vicinity of Building 4475, Killpack cantonment	Non-IRP <sup>(2)</sup>	Petroleum	Unknown - 1995	Hydrocarbons	SI completed	CERCLA (primary), MTCA, RCRA (secondary)
Landfill 1	2(7)	East of Bonneville cantonment and north of sewage lagoon	Non-IRP	Unknown	Early 1900s - unknown	Solid waste, sanitary waste	SOW for SI in review	CERCLA (primary), MTCA (secondary)
Landfill 2	3(7)	Eastern and northern borders of sewage lagoon	Non-IRP	Unknown	1940 - 1950	Solid waste, medical waste, hazardous waste, toxic waste	SOW for SI in review	CERCLA (primary), MTCA (secondary)
Landfill 3	5(7)	South of sewage lagoon	Non-IRP	Unknown	Late 1970s	Solid waste, hazardous waste, toxic waste	SOW for SI in review	CERCLA (primary), MTCA (secondary)
Burn Site	4(7)	Burn pit east of Landfill 3	Non-IRP	Wood, construction debris, solid waste (?)	Unknown	Wood debris	SOW for survey in review	CERCLA (primary), MTCA, RCRA (secondary)
Burned Building Site	8(7)	Buildings 1983 and 1962, Bonneville cantonment	Non-IRP	Burned wood with potential lead-based paint	Built in the 1930s	Lead-based paint, ACM	SOW for SI in review	TSCA, HUD
Drum Burial Site	18(7)	500 feet southeast of Killpack cantonment	Non-IRP	Metal drums paint, pesticides	1966 - present	Solid waste, hazardous waste	SOW for SI in review	CERCLA (primary), MTCA, RCRA (secondary)

CURRENT SITE NAME AND DESCRIPTION	BRAC PARCEL NUMBER AND CERFA CATEGORY <sup>(1)</sup>	LOCATION	SITE CLASS	MATERIALS DISPOSED OF	DATES OF OPERATION	POTENTIAL CONTAMINANTS OF CONCERN	STATUS OF RESPONSE	REGULATORY PROGRAM/ PROCESS
Paint/Solvent Burial Site	19(7)	Southeast of Killpack cantonment	Non-IRP	Paints, solvents	1966 - present	TCE	SOW for SI in review	CERCLA (primary), MTCA, RCRA (secondary)
Firing Ranges - UXO	1Q-XLPS	Several firing points and impact areas, former ammunition storage area	Non-IRP	Metal	1920s - present	Unexploded ordinance (UXO), solid waste	Archive search in progress	CERCLA (primary), MTCA, RCRA (secondary)
Asbestos	1-1833Q, 1-1980Q, 1-4155Q, 1-4314Q, 1-4316Q, 1-4325Q, 1-4327Q, 1-4337Q, 1-4345Q, 1-4348Q, 1-4356Q, 1-4364Q, 1-4366Q, 1-4368Q, 1-4377Q, 1-4378Q, 1-4387Q, 1-4389Q, 1-4398Q, 7-1826Q, 7-1828Q, 7-1837Q, 7-1847Q, 7-1848Q, 7-1857Q, 7-1867Q, 7-1911Q, 7-1920Q, 7-1922Q, 7-19 0Q, 7-1932Q, 7-1934Q, 7-1940Q, 7-1942Q, 8-1963Q, 9-1864Q, 10-1834Q, 12-4475Q, 16-125Q, 14-4126Q	Various buildings	Non-IRP	None	1920s - present	Asbestos fibers	Asbestos survey scoped but not awarded	AHERA
Wash Racks	12(7), 14(7)	Buildings 4475 and 4476, Killpack cantonment	Non-IRP	Solvents, soaps	1978 - 1994	TCE, BTEX, TPH	SOW for SI to be developed	CERCLA (primary) Clean Water Act, NPDES (secondary)
Maintenance Pit	12(7)	West of Building 4475, Killpack cantonment	Non-IRP	Oils, antifreeze	Unknown	TCE	SOW for SI to be developed	CERCLA (primary), MTCA, RCRA (secondary)
Grease Pits	6(7), 11(7)	Dining facilities at Killpack and Bonneville cantonments	Non-IRP	Cooking grease and oils	1935 - recent Killpack cantonment	PCBs, petroleum hydrocarbons, waste oil	SOW for SI to be developed	CERCLA (primary), MTCA, RCRA (secondary)
Pesticide Storage Facility	9(2), 16(2)	Building 1864, Bonneville cantonment; Building 4126, Killpack cantonment	Non-IRP	Pesticides	Unknown - 1980	2,4,5-T; 2,4-D; and DDT	SOW for SI to be developed	CERCLA (primary) FIFRA (secondary)
HM Storage Area	13(2)	Buildings 4475 and 4476, Killpack cantonment	Non-IRP	Oil, antifreeze, waste oil	1935 - present	Toxic materials (antifreeze), PCB, halogens	SOW for SI to be developed	RCRA
ASTs	7(2)	Bonneville and Killpack cantonments	Non-IRP	Diesel	1920/30 - present (Bonneville) 1935-present (Killpack)	Solid waste, contaminated soils	SOW for SI to be developed	RCRA UST, Clean Water Act (NPDES)

**TABLE 3-1  
AREA OF CONCERN SUMMARY (continued)**

CURRENT SITE NAME AND DESCRIPTION	BRAC PARCEL NUMBER AND CERFA CATEGORY <sup>(1)</sup>	LOCATION	SITE CLASS	MATERIALS DISPOSED OF	DATES OF OPERATION	POTENTIAL CONTAMINANTS OF CONCERN	STATUS OF RESPONSE	REGULATORY PROGRAM/ PROCESS
Old Sewage Lagoon Site	17(7)	Bonneville cantonment	Non-IRP	Raw sewage	1978 - present	Coliform bacteria	SOW for SI to be developed	Clean Water Act, NPDES
Chemical Warfare Burial Sites	NA	Unknown; locations have not been determined	Non-IRP	CS powder	Unknown	CS	NA	CERCLA (primary), MTCA, RCRA (secondary)

**Notes:**

- (1): CERFA categories are described in Section 3.4 of this BCP.  
 (2): Initial work started under IRP two years ago. Remainder of work funded under BRAC 95.

2,4,5-T: 2,4,5-trichlorophenoxy-acetic acid  
 2,4-D: 2,4-dichlorophenoxy-acetic acid  
 AHERA: Asbestos Hazard Emergency Response Act  
 AST: Aboveground storage tank  
 BTEX: Benzene, toluene, ethylbenzene, xylene  
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act  
 CS: Chlorobenzylidene malonitrile, a chemical used by the military and police as a riot-control and incapacitating agent  
 DDT: Dichlorodiphenyltrichloroethane  
 FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act  
 HM: Hazardous Material  
 HUD: Housing and Urban Development  
 IRP: Installation Restoration Program  
 LBP: Lead-based paint

LUST: Leaking underground storage tank  
 MTCA: Model Toxics Control Act  
 NA: Not applicable  
 NPDES: National Pollutant Discharge Elimination System  
 PCB: Polychlorinated biphenyl  
 PCS: Petroleum-contaminated soil  
 RCRA: Resource Conservation and Recovery Act  
 SI: Site investigation  
 SOW: Scope of work  
 TCE: Trichloroethene  
 TPH: Total petroleum hydrocarbons  
 TSCA: Toxic Substances Control Act  
 UST: Underground storage tank  
 UXO: Unexploded ordnance

**TABLE 3-2**  
**UNDERGROUND STORAGE TANK SUMMARY**

LOCATION	UST NO.	YEAR INSTALLE D	SIZE (GALLONS)	SUBSTANCE STORED	STATUS	FUTURE ACTIONS
East of Bldg. 4475	NA	NA	275	Diesel	Removed in fall 1995 (leaking)	Unknown
Bldg. 4476	NA	NA	275	Gasoline	Reported to have been removed intact in 1978 during construction of Building 4476	Unknown

**Notes:**

Bldg: Building  
 NA: Not available  
 UST: Underground storage tank

**TABLE 3-3  
ABOVEGROUND STORAGE TANK SUMMARY**

LOCATION	AST NO.	YEAR INSTALLED	SIZE (gallons)	SUBSTANCE STORED	STATUS	FUTURE ACTIONS
Bldg. 1826 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1828 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1833 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1837 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1847 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1848 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 1 at Building 1848	Unknown
Bldg. 1848 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 2 at Building 1848	Unknown
Bldg. 1857 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1867 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1911 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 1 at Building 1911	Unknown
Bldg. 1811 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 2 at Building 1911	Unknown
Bldg. 1920 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1922 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 1 at Building 1922	Unknown
Bldg. 1922 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 2 at Building 1922	Unknown
Bldg. 1932 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 1 at Building 1932	Unknown
Bldg. 1932 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 2 at Building 1932	Unknown
Bldg. 1934 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 1 at Building 1934	Unknown
Bldg. 1934 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 2 at Building 1934	Unknown
Bldg. 1940 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 1 at Building 1940	Unknown
Bldg. 1940 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 2 at Building 1940	Unknown
Bldg. 1942 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 1 at Building 1942	Unknown
Bldg. 1942 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC - Tank 2 at Building 1942	Unknown
Bldg. 1980 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 1997 (Bonnevill e cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 4364 (Killpack cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 4483 (Killpack cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 4475 (Killpack cantonment)	NA	NA	275	Diesel	Used for HVAC	Unknown
Bldg. 4476a (Killpack cantonment)	NA	NA	1,000	NA	Tank is inside building and has secondary containment	Unknown

NA: Not Available

**Notes:**

AST: Aboveground storage tank

Bldg: Building

HVAC: Heating, ventilation, and air conditioning

**TABLE 3-4**  
**RARE, THREATENED, OR ENDANGERED PLANT OR ANIMAL SPECIES**

COMMON NAME	STATUS
<b>Plants</b>	
Small-flowered trillium	Target species
Hairy-stemmed checker-mallow	Target species
<b>BIRDS</b>	
Vaux's swift	Target species
Pileated woodpecker	Target species
<b>Reptiles/Amphibians</b>	
Red-legged frog	Target species
<b>Mammals</b>	
Northern pocket gopher	Target species

**TABLE 3-5  
BRAC PARCEL DESCRIPTIONS**

<b>BRAC PARCEL NUMBER AND LABEL<sup>(ab)</sup></b>	<b>LOCATION ON FIGURE 3-1 (x, y coordinates)</b>	<b>APPROX. SIZE (acres)</b>	<b>CERFA CATEGORY/ QUALIFIED PARCEL</b>	<b>BASIS</b>	<b>REMEDATION/MITIGATION</b>
<b>CERFA Category 1 Parcel</b>					
1(1)	1-16, 1-13	3,831	1	This area does not have a history of storage, release, disposal, or migration from adjacent properties of hazardous substances or petroleum products.	No remediation is necessary
<b>CERFA Category 2 Parcels</b>					
7(2)PS	6,9	2.50	2	This area contains 20 275-gallon ASTs that store diesel to power HVAC associated with individual facilities. There is no history or reports of a release.	No remediation is currently planned
9(2)HS	6,9	0.25	2	This facility stored 55-gallon drums of 2,4,5-T; 2,4-D; and an unknown amount of DDT from 1977 to 1980. There is no evidence of a release of these chemicals.	No remediation is currently planned
13(2)PS	3,7	0.25	2	Building 4475b is used for storage. During the visual inspection, 4 55-gallon drums of oil, 4 55-gallon drums of antifreeze, and 8 55-gallon drums of transmission oil were observed. Building 4476a is a storage shed for a 1,000-gallon diesel AST and includes secondary containment.	No remediation is currently planned
16(2)HS	3,7	0.25	2	This building was used to store 55-gallon drums of 2,4,5-T; 2,4-D; and an unknown amount of DDT until 1977. There is no evidence of a release of these chemicals.	No remediation is currently planned
<b>CERFA Category 3 Parcels - None Identified</b>					
<b>CERFA Category 4 Parcels - None Identified</b>					
<b>CERFA Category 5 Parcels - None Identified</b>					
<b>CERFA Category 6 Parcels - None Identified</b>					
<b>CERFA Category 7 Parcels</b>					
2(7)	7,9	0.25	7	At this site, a cultural resources survey noted disturbed ground with evidence of use as a sanitary-type landfill. A specimen from this site dates the use to the early 1900s.	No remediation is currently planned
3(7)	7,9	2.76	7	This landfill was discovered during excavation for the sewage lagoon. The eastern and northern borders of the landfill were located. The estimated use of this landfill is 1940s to 1950s; however, the type and quantity of material located at this site are unknown.	No remediation is currently planned
4(7)	7,9	0.25	7	This is a reported burn site. There is a lack of documentation supporting the existence of or the type and quantity of material burned at this site.	Removal and disposal of debris pile at the burn site is being planned as part of this area investigation.

BRAC PARCEL NUMBER AND LABEL <sup>(ab)</sup>	LOCATION ON FIGURE 3-1 (x, y coordinates)	APPROX. SIZE (acres)	CERFA CATEGORY/ QUALIFIED PARCEL	BASIS	REMEDIATION/MITIGATION
5(7)	8,9	0.25	7	This is a reported trash burial site. There is a lack of documentation supporting the existence of or the type and quantity of material buried at this site.	No remediation is currently planned
6(7)	6,9	0.25	7	These two grease pits, located across from Building 1828, are corrugated metal pipes that extend into an underground pit filled with gravel and were designed to accept grease from the mess hall. However, there is a potential for other substances to have been discarded in these pits.	No remediation is currently planned
8(7)HR(P)	6,9	0.37	7	Buildings 1983 and 1962 were located at this site and were burned in place. There is a possibility of a release of lead or other substances associated with the use or design of the buildings.	No remediation is currently planned
10(7)HR(P)	6,9	0.25	7	This facility is the gas mask training chamber and was used for an unknown period. The interior of this building has a residue that is potentially tear gas (chlorobenzylidene malonitrile).	No remediation is currently planned
11(7)	3,7	0.25	7	This grease pit, located across from Building 4368, is a corrugated metal pipe that extends into an underground pit filled with gravel and was designed to accept grease from the mess hall. However, there is a potential for other substances to have been discarded in this pit.	No remediation is currently planned
12(7)	3,7	0.25	7	Building 4475 had a maintenance pit that reportedly received waste oil and antifreeze. The pit is now covered by the concrete floor of the building. A 3- to 4-foot strip on the south side of Building 4475 has stressed vegetation and red staining, possibly from drainage off the galvanized metal roof.	No remediation is currently planned
14(7)	3,7	0.25	7	Building 4476 had a wash rack area that potentially received waste oil and antifreeze.	No remediation is currently planned
15(7)PR	3,7	0.25	7	A 275-gallon UST located east of Building 4475 was removed in 1995. Evidence of soil contamination was noted during removal; however, remediation has not been performed.	Remediation is planned for FY 1996
17(7)HR(P)	6,8	0.25	7	This area is the location of a former open sewage pond.	Investigation is planned under BRAC 95
18(7)HR(P)	3,7	0.25	7	This area reportedly contains buried drums of unknown contents.	Investigation is planned under BRAC 95
19(7)HR(P)	4,6	0.25	7	Waste paint and solvent were reportedly disposed of in this area.	Investigation is planned under BRAC 95
<b>Qualified Parcels</b>					
1-1833Q-L(P)/A(P)	6,9	0.02	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-1980Q-L(P)/A(P)	6,9	0.05	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997

**TABLE 3-5  
BRAC PARCEL DESCRIPTIONS (continued)**

<b>BRAC PARCEL NUMBER AND LABEL<sup>(ab)</sup></b>	<b>LOCATION ON FIGURE 3-1 (x, y coordinates)</b>	<b>APPROX. SIZE (acres)</b>	<b>CERFA CATEGORY/ QUALIFIED PARCEL</b>	<b>BASIS</b>	<b>REMEDIATION/MITIGATION</b>
1-4155Q-L(P)/A(P)	3,7	0.02	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4314Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4316Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4325Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4327Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4337Q-L(P)/A(P)	3,7	0.04	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4345Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4348Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4356Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4364Q-L(P)/A(P)	3,7	0.02	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4366Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4368Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4377Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4378Q-L(P)/A(P)	3,7	0.004	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4387Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4389Q-L(P)/A(P)	3,7	0.1	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1-4398Q-L(P)/A(P)	3,7	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
1Q-X(P)	1-16, 1-13	3,840	Q	This area is potentially impacted by activities associated with firing points and impact areas, such as lead contamination, and contains UXO due to past or current use as a firing range. Also, included in this area are three ammunition bunkers used to store ammunition. There is a potential here for ammunition to be buried in the soil mound. Although this area comprises the entire installation, it is unlikely that UXO are present in the airstrip, Killpack Cantonment, or Bonneville Cantonment areas, or along the road which leads from the entrance of the installation to the two cantonments.	UXO search and removal is planned for FY 1997
7-1826Q-L(P)/A(P)	6,9	0.04	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1828Q-L(P)/A(P)	6,9	0.02	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1837Q-L(P)/A(P)	6,9	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1847Q-L(P)/A(P)	6,9	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1848Q-L(P)/A(P)	6,9	0.05	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1857Q-L(P)/A(P)	6,9	0.03	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997

BRAC PARCEL NUMBER AND LABEL <sup>(ab)</sup>	LOCATION ON FIGURE 3-1 (x, y coordinates)	APPROX. SIZE (acres)	CERFA CATEGORY/ QUALIFIED PARCEL	BASIS	REMEDIATION/MITIGATION
7-1867Q-L(P)/A(P)	6,9	0.04	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1911Q-L(P)/A(P)	6,9	0.05	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1920Q-L(P)/A(P)	6,9	0.01	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1922Q-L(P)/A(P)	6,9	0.05	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1930Q-L(P)/A(P)	6,9	0.005	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1932Q-L(P)/A(P)	6,9	0.05	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1934Q-L(P)/A(P)	6,9	0.04	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1940Q-L(P)/A(P)	6,9	0.06	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
7-1942Q-L(P)/A(P)	6,9	0.05	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
8-1963Q-L(P)/A(P)	6,9	0.04	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
9-1864Q-L(P)/A(P)	6,9	0.01	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
10-1834Q-L(P)/A(P)	6,9	0.02	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
12-4475Q-L(P)/A(P)	3,7	0.04	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
16-4125Q-L(P)/A(P)	3,7	0.02	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997
16-4126Q-L(P)/A(P)	3,7	0.01	Q	Possible LBP and ACM due to the age of the building.	Abatement is planned for FY 1997

**Notes:**

(a): BRAC parcel labels are as follows:

- PS: Petroleum storage
- PR = Petroleum release or disposal
- HS = Hazardous substance storage
- HR = Hazardous substance release or disposal

(b): Qualified parcel labels are as follows:

- A = Asbestos
- L = Lead-based paint
- P = Polychlorinated biphenyls
- R = Radon
- RD = Radiological hazards
- X = Unexploded ordnance

- ACM: Asbestos-containing material
- AST: Aboveground storage tank
- BRAC: Base Realignment and Closure
- 2,4-D: 2,4-dichlorophenoxy-acetic acid
- 2,4,5-T: 2,4,5-trichlorophenoxy-acetic acid
- DDT: Dichlorodiphenyltrichloroethane
- FY: Fiscal Year
- HVAC: Heating, ventilation, air conditioning
- LBP: Lead-based paint
- Q: Qualified
- UST: Underground storage tank
- UXO: Unexploded ordnance

**TABLE 4-1  
INVESTIGATION/CLEANUP SEQUENCE**

INVESTIGATION SEQUENCE	AREA OF CONCERN DESIGNATION	BRAC PARCEL NUMBER AND CERFA DESIGNATION	FUTURE REMEDIAL PHASES	INVESTIGATION GOAL/STRATEGY
1	LBP/Soil Metals	1-1833Q, 1-1980Q, 1-4155Q, 1-4314Q, 1-4316Q, 1-4325Q, 1-4327Q, 1-4337Q, 1-4345Q, 1-4348Q, 1-4356Q, 1-4364Q, 1-4366Q, 1-4368Q, 1-4377Q, 1-4378Q, 1-4387Q, 1-4389Q, 1-4398Q, 7-1826Q, 7-1828Q, 7-1837Q, 7-1847Q, 7-1848Q, 7-1857Q, 7-1867Q, 7-1911Q, 7-1920Q, 7-1922Q, 7-1930Q, 7-1932Q, 7-1934Q, 7-1940Q, 7-1942Q, 8-1963Q, 9-1864Q, 10-1834Q, 12-4475Q, 16-4125Q, 16-4126Q	Survey completed	LBP/Soil Surveys contract consists of two parts and one option: <ul style="list-style-type: none"> <li>• Part 1, Lead-Based Paint Survey</li> <li>• Part 2, Soil-Metal Contamination Survey</li> <li>• Option 1 of Part 2, Soil-Lead Contamination Survey</li> </ul>
2	CS Gas Building	10(7)	Decontamin-ation/ Demolition	Conduct a CS gas survey, an ACM and LBP survey
3	UST #7, PCS/LUST	15(7)	RA	Identify vertical and lateral extent of PCS surrounding former site of a 275-gallon UST
4	Landfill 1	2(7)	SI/RA	Identify vertical and lateral extent of disposal area and determine possible contamination due to waste disposal
5	Landfill 2	3(7)	SI/RA	Identify vertical and lateral extent of disposal area and determine possible contamination due to waste disposal
6	Landfill 3	5(7)	SI/RA	Identify vertical and lateral extent of disposal area and determine possible contamination due to waste disposal
7	Burn Site	4(7)	Survey/RA	Evaluate possible contamination due to uncontrolled burning of wood, trash, and other material
8	Burned Building Site	8(7)	SI/RA	Evaluate possible contamination due to lead-based paint in soil; the burned buildings may have been painted with lead-based paint, which may have been released during the building burning
9	Drum Burial Site	18(7)	SI/RA	Locate drums, evaluate possible contamination due to disposal of hazardous substances at this area
10	Paint/Solvent Burial Site	19(7)	SI/RA	Locate and evaluate possible contamination due to disposal of hazardous substances at this area
11	Firing Ranges - UXO	1Q	Survey/RA	Investigate firing points, impact areas, and some areas outside firing range safety fans for UXO and possible associated lead contamination of the soil

INVESTIGATION SEQUENCE	AREA OF CONCERN DESIGNATION	BRAC PARCEL NUMBER AND CERFA DESIGNATION	FUTURE REMEDIAL PHASES	INVESTIGATION GOAL/STRATEGY
12	Asbestos	1-1833Q, 1-1980Q, 1-4155Q, 1-4314Q, 1-4316Q, 1-4325Q, 1-4327Q, 1-4337Q, 1-4345Q, 1-4348Q, 1-4356Q, 1-4364Q, 1-4366Q, 1-4368Q, 1-4377Q, 1-4378Q, 1-4387Q, 1-4389Q, 1-4398Q, 7-1826Q, 7-1828Q, 7-1837Q, 7-1847Q, 7-1848Q, 7-1857Q, 7-1867Q, 7-1911Q, 7-1920Q, 7-1922Q, 7-1930Q, 7-1932Q, 7-1934Q, 7-1940Q, 7-1942Q, 8-1963Q, 9-1864Q, 10-1834Q, 12-4475Q, 16-4125Q, 16-4126Q	Survey/ Abatement	Survey for the presence of ACM at these locations
13	Wash Racks	12(7), 14(7)	SI/RA	Evaluate possible contamination due to disposal of vehicle fluids at wash racks
14	Maintenance Pit	12(7)	SI/RA	Evaluate possible contamination due to disposal of vehicle fluids at pit
15	Grease Pits	6(7), 11(7)	SI/RA	Evaluate possible contamination due to disposal of uncontrolled hazardous substances in these pits
16	Pesticide Storage Facility	9(2), 16(2)	SI/RA	Evaluate possible contamination of storage areas due to spillage of hazardous materials
17	HM Storage Area	13(2)	Survey/RA	Evaluate possible contamination of storage areas due to spillage of hazardous materials
18	ASTs	7(2)	SI/RA	Evaluate contamination due to incidental spillage that occurred during tank filling
19	Old Sewage Lagoon Site	17(7)	Survey/RA	Evaluate possible contamination of soils, groundwater, and Lacamus Creek due to storage and treating waste-water in the lagoon
20	Chemical Warfare Burial Sites	NA	SI/RA	Evaluate presence of potential chemical warfare burial sites at Camp Bonneville

**Notes:**

- ACM: Asbestos-containing material
- AST: Aboveground storage tank
- BRAC: Base Realignment and Closure
- CERFA: Community Environmental Response Facilitation Act
- CS gas: Chemical used by the military and police as a riot-control and incapacitating agent
- HM: Hazardous Materials
- LBP: Lead-based paint
- LUST: Leaking underground storage tank
- NA: Not available
- PCS: Petroleum-contaminated soil
- Q: Qualified
- RA: Remedial action
- SI: Site investigation
- UST: Underground storage tank
- UXO: Unexploded ordnance

**TABLE 5-1  
BCT/PROJECT TEAM/RAB MEETING SCHEDULE**

<b>BCT PROJECT TEAM MEETINGS</b>		
<b>DATE</b>	<b>TOPIC(S)</b>	<b>LOCATION</b>
May 13, 1996	<ul style="list-style-type: none"> <li>• RAB</li> <li>• LRA</li> <li>• Work Plan Revisions</li> <li>• Project Schedule Update</li> </ul>	Building 6193, Fort Lewis, WA
June 12, 1996	<ul style="list-style-type: none"> <li>• RAB</li> <li>• LRA</li> <li>• Work Plan Revisions</li> <li>• Project Schedule Update</li> <li>• Project Technical Review (landfills)</li> </ul>	Building 6193, Fort Lewis, WA
July 13, 1996	<ul style="list-style-type: none"> <li>• Native American Issues</li> <li>• UXO Safety Briefing</li> <li>• Work Plan Revisions</li> <li>• Project Status Update</li> <li>• Project Schedule Update</li> </ul>	Building 6193, Fort Lewis, WA
August 5, 1996	<ul style="list-style-type: none"> <li>• Project Status Update</li> <li>• BRAC Cleanup Plan Strategy</li> </ul>	Building 6193, Fort Lewis, WA
BCT meetings are scheduled for the first Thursday of each month.	RAB status, LRA issues, project status, project tech. review, and project funding requirements	Building 6193, Fort Lewis, WA
<b>RESTORATION ADVISORY BOARD MEETINGS/INFORMATION RELEASE DATES</b>		
<b>DATE</b>	<b>TOPIC(S)</b>	<b>LOCATION</b>
April 25, 1996	General RAB information release	
September 16, 1996	First RAB meeting <ul style="list-style-type: none"> <li>• Define what a RAB is</li> <li>• Purpose</li> <li>• Scope</li> <li>• Role of Federal and State Governments</li> <li>• Community Responsibilities and Role</li> <li>• Project Status</li> <li>• Project Schedule</li> <li>• Questions</li> <li>• Conclusion</li> </ul>	The first meeting was held in the Killpack cantonment facility on Camp Bonneville.
Future meetings will be held on the second Wednesday of each month.	To be determined	To be determined by the RAB

**Notes:**

- BCT: BRAC Cleanup Team
- BRAC: Base Realignment and Closure
- LRA: Local Reuse Authority
- RAB: Restoration Advisory Board
- UXO: Unexploded ordnance

**TABLE 6-1**  
**SUMMARY OF UNRESOLVED TECHNICAL AND OTHER ISSUES**

<b>ISSUES TO BE RESOLVED</b>	<b>BCT ACTION ITEMS</b>	<b>RATIONALE</b>	<b>STATUS/STRATEGY</b>
Data usability	Ensure acceptability of generated data	Current and future data are critical to completion of all remedial actions	Review existing environmental documents, implement additional studies as necessary
Information management	Make IRPIMS available to each BCT member	Establishment and maintenance of electronic data base for all data is crucial for access by all agencies and contractors involved	Strategy will be developed
Data gaps	Identify data gaps, prepare scopes of work for investigations to fill data gaps	Effective identification and filling of data gaps will facilitate completion of environmental restoration and compliance efforts	Decision-making documents will be based on results and findings from data collected
Background levels	No action anticipated until background levels are determined	Background levels are important to the planned remediation of Camp Bonneville sites	Technical team will determine soil metal background levels; background data may be collected when data quality objectives are established and contaminants are detected
Updating the EBS and Natural/Cultural Resources documentation	No action at present time	EBS and natural and cultural resources document need to reflect status at site	Update EBS and natural and cultural resources documents as status at Camp Bonneville changes

**Notes:**

BCT: BRAC Cleanup Team

EBS: Environmental Baseline Survey

IRPIMS: Installation Restoration Program Information Management System