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## Hanford Site Surface Soil Radioactive Contamination Control Plan

March 1993

P. D. Mix  
R. A. Winship

Date Published  
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Waste Management



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**ABSTRACT**

*The Decommissioning & Resource Conservation and Recovery Act Closure Program is responsible to the U.S. Department of Energy Richland Field Office, for the safe and cost-effective surveillance, maintenance, and decommissioning of surplus facilities and Resource Conservation and Recovery Act of 1976<sup>1</sup> closures at the Hanford Site. This program also manages the Radiation Area Remedial Action that includes the surveillance, maintenance, decontamination, and/or interim stabilization of inactive burial grounds, cribs, ponds, trenches, and unplanned release sites. This plan addresses only the Radiation Area Remedial Action activity requirements for managing and controlling the contaminated surface soil areas associated with these inactive sites until they are remediated as part of the Hanford Site environmental restoration process.*

*All officially numbered Radiation Area Remedial Action and non-Radiation Area Remedial Action contaminated surface soil areas are listed in this document so that a complete list of the sites requiring remediation is contained in one document. Specific organizational responsibility for management and control of these sites is shown in Appendix A. The majority of the non-Radiation Area Remedial Action or active sites are managed by Tank Farms and other operation groups. This plan does not include the management requirements for the non-Radiation Area Remedial Action/active sites, surplus facilities, and/or Resource Conservation and Recovery Act of 1976 closures.*

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<sup>1</sup>Resource Conservation and Recovery Act of 1976, 42 USC 6901 et seq.

## EXECUTIVE SUMMARY

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The primary requirements of the Radiation Area Remedial Action activity are to conduct the surveillance, maintenance, decontamination, and/or interim stabilization of inactive burial grounds, cribs, ponds, trenches, and unplanned release sites at the Hanford Site. A major concern associated with these requirements is the management and control of surface soil contamination. A Radiation Area Remedial Action site is defined as follows: any inactive ground site that has no identified programmatic use; is contaminated with radioactivity to levels that require controlled access; is outside the jurisdictional land and administrative boundaries of an operating plant, and has been specifically assigned to the Radiation Area Remedial Action program in accordance with Draft DOE Order 58XX.XX, "Transition of Facilities to the Office of Environmental Restoration and Waste Management," August 27, 1992.

Appendix A provides a complete list of all currently numbered contaminated surface soil sites at the Hanford Site. These sites have been further sorted by the responsible organization or program and ranked using a system developed by the Westinghouse Hanford Company Environmental Engineering Studies Function Organization. The responsible organizations listed in Appendix A will be adjusted as company reorganization and group responsibilities are redefined. The priority for stabilizing the individual sites will be established using the ranking system, budget guidance from U.S. Department of Energy Richland Field Office, and technical and operational considerations. All of these sites are located within an Environmental

Restoration Operable Unit or operating area (e.g., Tank Farms). Therefore, the stabilization work must be coordinated with the preliminary remedial investigation/feasibility study site characterization activities or *Resource Conservation and Recovery Act of 1976*<sup>1</sup> (RCRA) facility investigation/corrective measure study and other ongoing operations work. Some contaminated surface soil sites share common boundaries or were contaminated by the same source. For these sites it is important that the stabilization work be coordinated and scheduled for approximately the same period.

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<sup>1</sup>Resource Conservation and Recovery Act of 1976, 42 USC 6901 et seq.

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CONTENTS

|       |   |    |
|-------|---|----|
| 1.0   | INTRODUCTION . . . . .  | 1  |
| 1.1   | PURPOSE . . . . .   | 1  |
| 1.2   | SCOPE . . . . .   | 1  |
| 1.3   | MAJOR MANAGEMENT STRATEGIES AND OBJECTIVES . . . . .  | 2  |
| 2.0   | ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES . . . . .   | 2  |
| 2.1   | ORGANIZATION STRUCTURE . . . . .  | 2  |
| 2.2   | RESPONSIBILITIES . . . . .  | 4  |
| 2.2.1 | U.S. Department of Energy, Richland Field Office . . . . .                                      | 4  |
| 2.2.2 | Westinghouse Hanford Company Environmental Division . . . . .                                   | 4  |
| 2.2.3 | Environmental Restoration Programs . . . . .  | 4  |
| 2.2.4 | Decommissioning and Resource Conservation and<br>Recovery Act of 1976 Closure Program . . . . . | 4  |
| 2.2.5 | Environmental Restoration Operations . . . . .  | 4  |
| 2.2.6 | Environmental Engineering Studies Function . . . . .  | 6  |
| 2.2.7 | Operating Organizations . . . . .   | 6  |
| 2.2.8 | Environmental, Safety, Health, and Quality<br>Assurance Division . . . . .                      | 6  |
| 3.0   | BUDGETING AND PLANNING . . . . .  | 6  |
| 3.1   | U.S. DEPARTMENT OF ENERGY, RICHLAND FIELD OFFICE, GUIDANCE . . . . .                            | 6  |
| 3.2   | BUDGETING CYCLE . . . . .   | 6  |
| 3.3   | DETAIL PLANNING . . . . .   | 7  |
| 4.0   | MANAGEMENT PROGRAM ASSUMPTIONS, CRITERIA, AND PRIORITIES . . . . .                              | 7  |
| 4.1   | ASSUMPTIONS . . . . .   | 7  |
| 4.2   | CRITERIA . . . . .  | 9  |
| 4.2.1 | Assessing Interim Stabilization Alternatives<br>Criteria . . . . .                              | 9  |
| 4.2.2 | Environmental Protection Criteria . . . . .   | 10 |
| 4.2.3 | Safety Criteria . . . . .   | 10 |
| 4.2.4 | Quality Assurance . . . . .   | 10 |
| 4.3   | PROJECT PRIORITIES . . . . .  | 10 |
| 4.3.1 | Prioritization Criteria . . . . .   | 10 |
| 4.3.2 | Prioritization of Projects . . . . .  | 11 |
| 4.3.3 | Stabilization Alternatives . . . . .  | 12 |
| 5.0   | WORK ELEMENTS . . . . .   | 13 |
| 5.1   | GENERAL . . . . .   | 13 |
| 5.1.1 | Program Management and Administration . . . . .   | 13 |
| 5.1.2 | Surveillance and Maintenance . . . . .  | 13 |
| 5.1.3 | Herbicide Weed Control Program . . . . .  | 13 |
| 6.0   | CONTROL . . . . .   | 14 |
| 6.1   | INDUSTRIAL AND RADIOLOGICAL SAFETY . . . . .  | 14 |
| 6.1.1 | Industrial safety . . . . .   | 14 |
| 6.1.2 | Radiological Safety . . . . .   | 14 |
| 6.2   | HANFORD SURFACE SOIL RADIOACTIVE CONTAMINATION<br>CONTROL PLAN FLOW CHART . . . . .             | 14 |

CONTENTS (cont)

|             |  |     |
|-------------|--|-----|
| 6.3         | MANAGEMENT OF WASTE GENERATED DURING GROUND STABILIZATION PROJECTS . . . . . | 17  |
| 6.3.1       | Clean Waste . . . . .  | 17  |
| 6.3.2       | Mixed Waste . . . . .  | 17  |
| 6.3.3       | High-Level Radioactive Waste . . . . .                                       | 17  |
| 6.3.4       | Transuranic Waste . . . . .  | 17  |
| 6.3.5       | Low-Level Radioactive Waste . . . . .  | 17  |
| 6.3.6       | Hazardous Waste . . . . .  | 17  |
| 6.4         | RADIOLOGICAL RELEASE AND POSTING REQUIREMENTS . . . . .                      | 18  |
| 6.4.1       | Sites . . . . .  | 18  |
| 6.4.2       | Equipment and Materials . . . . .  | 18  |
| 6.4.3       | Posting . . . . .  | 18  |
| 6.5         | PROJECT MANAGEMENT AND CONTROL . . . . .                                     | 18  |
| 6.5.1       | Cost and Schedule Performance Monitoring . . . . .                           | 18  |
| 6.6         | REGULATORY REQUIREMENTS . . . . .  | 19  |
| 7.0         | DOCUMENTATION AND APPROVALS . . . . .  | 19  |
| 7.1         | SURVEILLANCE AND MAINTENANCE GUIDELINES . . . . .                            | 19  |
| 7.2         | GROUND STABILIZATION PROJECT WORK . . . . .                                  | 20  |
| 7.3         | LIST OF HANFORD GROUND SITES . . . . .                                       | 20  |
| 8.0         | REFERENCES . . . . .   | 20  |
| APPENDICES: |  |     |
| A           | Contaminated Soil Surface Sites . . . . .                                    | A-1 |
| B           | Work Elements Site Rankings . . . . .  | B-1 |
| C           | Area Maps . . . . .  | C-1 |

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LIST OF FIGURES

|   |   |   |
|---|---|---|
| 1 | Organization Structure . . . . .  | 3 |
| 2 | Hanford Surface Soil Radioactive Contamination<br>Control Plan Flow Chart . . . . . | 5 |
| 3 | Rollup Process for Developing Cost Accounts . . . . .                               | 8 |

LIST OF TABLES

|   |  |    |
|---|--|----|
| 1 | Priority Ranking Numerical Value . . . . . | 12 |
| 2 | Regulatory Requirements . . . . .          | 15 |

93302-182

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ACRONYMS

|         |   |
|---------|---|
| ADS     | activity data sheets  |
| CAA     | cost account authorization  |
| CAM     | cost account manager  |
| CAP     | cost account plan   |
| CERCLA  | <i>Comprehensive Environmental Response, Compensation and Liability Act of 1980</i>       |
| CV      | cost variance   |
| DOE     | U.S. Department of Energy   |
| DRCP    | Decommissioning and <i>Resource Conservation and Recovery Act of 1976</i> Closure Program |
| ERD     | Environmental Restoration Division  |
| ERO     | Environmental Restoration Operations  |
| FDS     | Financial Data System   |
| IFS&M   | Inactive Facilities Surveillance and Maintenance  |
| NEPA    | <i>National Environmental Policy Act</i>  |
| PUREX   | Plutonium Uranium Extraction (Plant)  |
| RARA    | Radiation Area Remedial Action  |
| RCRA    | <i>Resource Conservation and Recovery Act of 1976</i>                                     |
| RFI/CMS | RCRA facility investigation/corrective measures study                                     |
| RI/FS   | remedial investigation/feasibility study  |
| RL      | DOE, Richland Field Office  |
| S&M     | surveillance and maintenance  |
| SV      | schedule variance   |
| VAR     | variance analysis report  |
| WAC     | Washington State Administrative Code  |
| WHC     | Westinghouse Hanford Company  |

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## HANFORD SURFACE SOIL RADIOACTIVE CONTAMINATION CONTROL PLAN

### 1.0 INTRODUCTION

#### 1.1 PURPOSE

This plan represents the activities and controls that are followed in implementing the Radiation Area Remedial Action (RARA) activities at the Hanford Site. The RARA has become necessary at the Hanford Site because of the past practice of disposing solid and liquid radioactive waste in shallow land burial. Over time some of the contamination has risen to the surface by erosion, plant uptake, and upward movement of subterranean soil by animals and insects. When this contamination comes to the surface it becomes a control concern of maintaining its movement and preventing its migration to areas outside the control boundaries of posted radiation zones

The RARA activity provides for surveillance and maintenance (S&M), decontamination and/or the interim stabilization of surface soil contamination at inactive burial grounds, cribs, ponds, trenches, and unplanned release sites on the Hanford Site. This activity provides for the decontamination of these ground sites and/or the stabilization of the contaminated soil to prevent its migration beyond control boundaries. Appendix A lists sites in the current plan. Appendix A also lists the contaminated surface soil sites of both the RARA program and others belonging to the operating groups that require remediation. Environmental Restoration Operations (ERO) manages the RARA sites. To meet the objectives in Section 1.3, this plan describes the activities of the Westinghouse Hanford Company (WHC) Decommissioning and *Resource Conservation and Recovery Act of 1976* Closure Program (DRCP) relative to the management of these sites.

#### 1.2 SCOPE

Appendix A currently shows a total of 323 surface contaminated ground sites of which 258 are inactive and 65 are active. As of March 1993 there has been 44 inactive and 6 active sites either decontaminated or stabilized from this total of 323 thereby leaving 273 sites yet to be completed. These sites are located in the 100, 200, 300, and 600 Areas at the Hanford Site. The sites contain inactive reactor effluent retention basins, underground piping, leach trenches, diversion boxes, storage tanks, french drains, unplanned release sites, solid waste burial grounds, cribs, ponds, and ditches. This plan identifies and ranks contaminated surface soil sites at the Hanford Site that are in both the RARA program and those that are in the operating programs. Appendix B lists the currently ranked sites. The RARA sites are managed and controlled by ERO; the non-RARA sites are managed by other WHC programs, e.g., Tank Farms, Plutonium Uranium Extraction (Plant) (PUREX), and N-Plant.

The scope of this document includes the following increments of the overall plan for RARA activities:

- Purpose, scope, and objectives
- Program organizational structure and responsibilities
- Budgeting and planning
- Assumptions criteria
- Work elements
- Control.

### 1.3 MAJOR MANAGEMENT STRATEGIES AND OBJECTIVES

The following items are major objectives in the management of the RARA Program.

- Continue the S&M, decontamination, and/or interim stabilization of the RARA sites in a safe, cost-effective, and environmentally sound manner until final remediation is started.
- Develop short- and long-range budgets and schedules, including identification of projects to maintain the RARA sites in an environmentally safe condition.
- Provide planning and engineering necessary to ensure the efficient, cost effective management of the RARA sites.
- Comply with the provisions of state and Federal environmental regulations, U.S. Department of Energy (DOE) Orders, and WHC policies and procedures.
- Manage the annual herbicide program for RARA sites.
- Review and update this program plan by March of each year beginning in 1993.

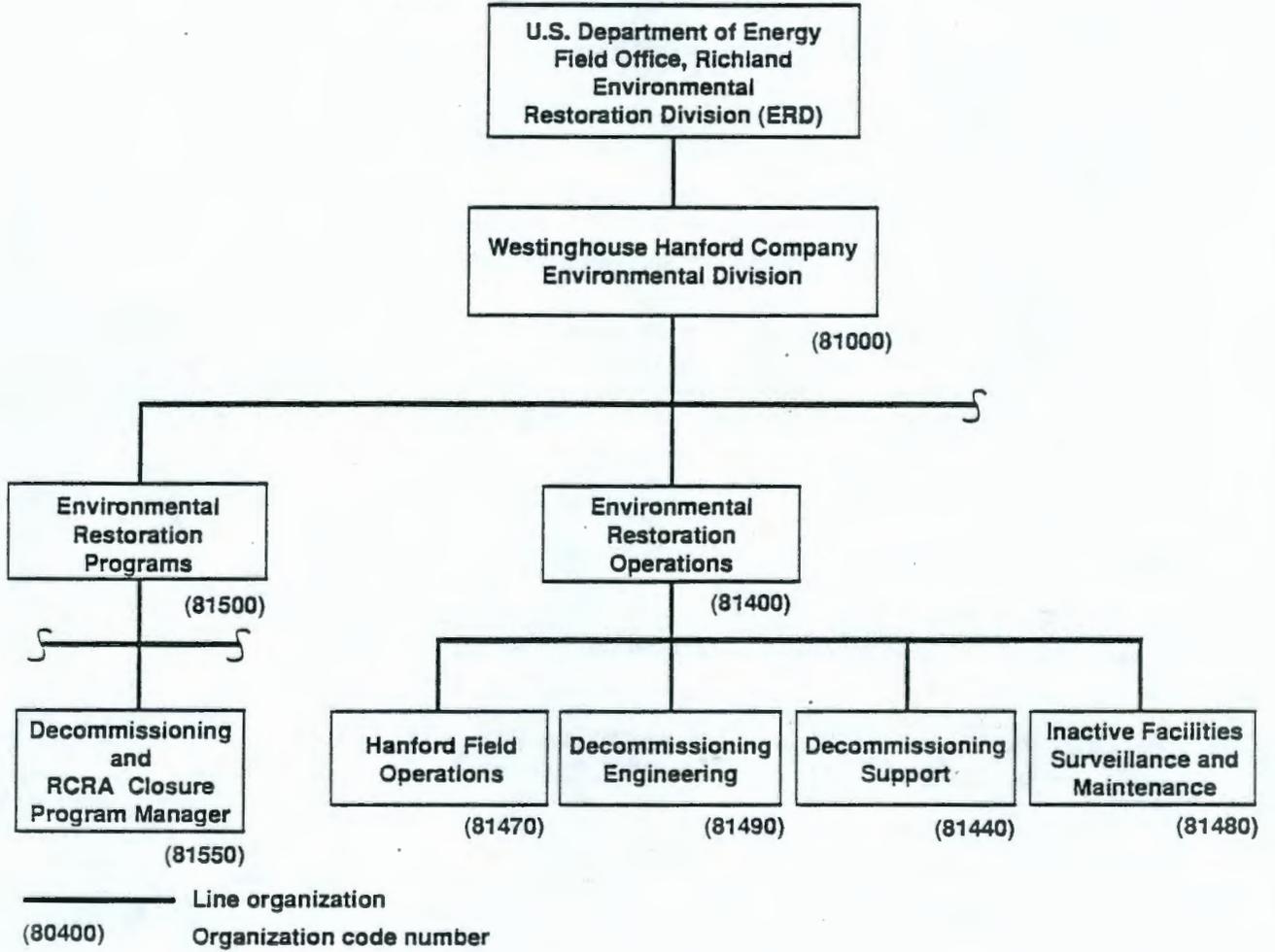
## 2.0 ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES

### 2.1 ORGANIZATION STRUCTURE

A block diagram of the organization structure for RARA activities is presented in Figure 1.

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Figure 1. Organization Structure.



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## 2.2 RESPONSIBILITIES

### 2.2.1 U.S. Department of Energy, Richland Field Office

The DOE, Richland Field Office (RL), Environmental Restoration Division (ERD) is responsible for the Environmental Restoration Program at the Hanford Site.

### 2.2.2 Westinghouse Hanford Company Environmental Division

The Westinghouse Hanford Environmental Division has overall responsibility for planning, coordinating, and integrating WHC environmental activities. This includes the surplus facilities management, *Resource Conservation and Recovery Act of 1976* (RCRA) closures, remediations, and RARA activities.

### 2.2.3 Environmental Restoration Programs

This function integrates the environmental restoration and surplus facilities decommissioning work under one program.

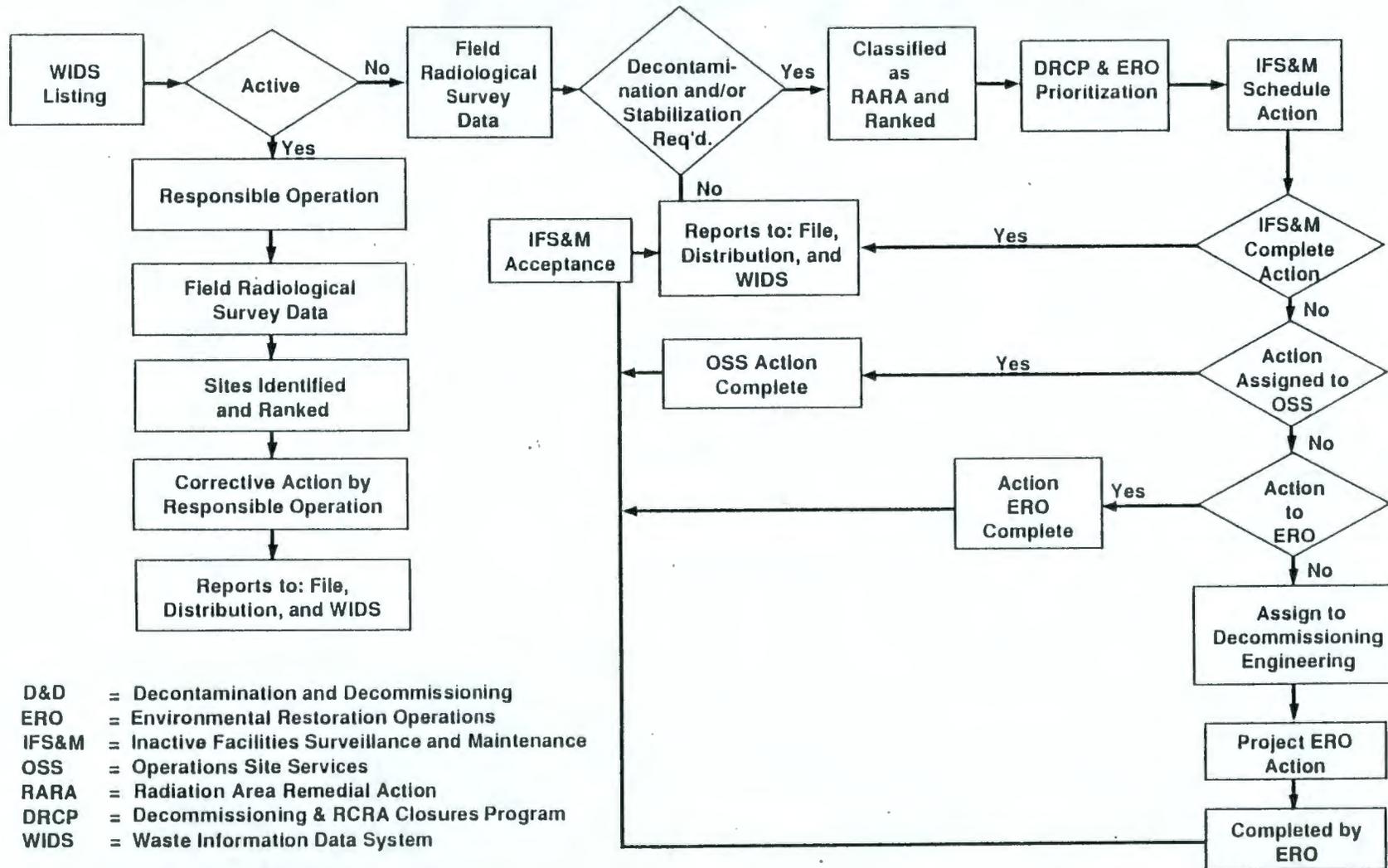
### 2.2.4 Decommissioning and Resource Conservation and Recovery Act of 1976 Closure Program

The DRCP manages the S&M and decommissioning of surplus facilities. The DRCP also manages the RCRA closure and RARA activities. The DRCP establishes the cost, schedule, and technical baselines for individual projects, i.e., 100 Area surplus production reactor decommissioning, and 183-H Solar Evaporation Basins closure, and provides the program management for completing the work. The work activities relative to projects are completed by various functional organizations through a matrix management system. Performing organizations are assigned work by the Program Office using cost account authorizations (CAA) and cost account plans (CAP). Project status is reported to the Program Office using an earned-value system. The majority of decommissioning, RCRA, and RARA field work at the Hanford Site is performed by ERO. (Refer to Figure 1 for the organization structure and Figure 2 for the work flow chart.)

### 2.2.5 Environmental Restoration Operations

The ERO performs the necessary S&M, decommissioning, and environmental restoration field operations on the Hanford Site, including the engineering activities in support of these operations. The ERO also functions as landlord and plant manager for all assigned contaminated surplus facilities, inactive waste sites, and selected inactive noncontaminated facilities.

# Hanford Surface Soil Radioactive Contamination Control Plan Flow Chart



- D&D = Decontamination and Decommissioning
- ERO = Environmental Restoration Operations
- IFS&M = Inactive Facilities Surveillance and Maintenance
- OSS = Operations Site Services
- RARA = Radiation Area Remedial Action
- DRCP = Decommissioning & RCRA Closures Program
- WIDS = Waste Information Data System

Figure 2. Hanford Surface Soil Radioactive Contamination Control Plan Flow Chart.

### **2.2.6 Environmental Engineering Studies Function**

The Environmental Engineering Studies Function organization has the primary responsibility for collecting and interpreting the radiological data from the field and providing responsible organizations with a list of ranked contaminated surface sites requiring stabilization in accordance with environmental and radiological safety criteria.

### **2.2.7 Operating Organizations**

Operating organizations identified in Appendix A and B of this document are responsible for the S&M of their sites including funding for routine control and/or any necessary corrective actions.

### **2.2.8 Environmental, Safety, Health, and Quality Assurance Division**

The Environmental, Safety, Health, and Quality Assurance Division provides oversight and tracks progress of environmental restoration tasks, including RARA activities, surplus facilities management, RCRA closures, and remediations.

## **3.0 BUDGETING AND PLANNING**

The DRCP adheres to the guidelines and procedures set forth by RL and WHC with regard to the budget and planning of decommissioning RCRA closures and RARA work activities. Defined below are the processes followed by the DRCP in the development and preparation of detailed budgeting, planning, and scheduling of these activities.

### **3.1 U.S. DEPARTMENT OF ENERGY, RICHLAND FIELD OFFICE, GUIDANCE**

The DRCP obtains funding for the decommissioning RCRA closures and RARA activities from the DOE Office of Environmental Restoration and Waste Management. The DRCP receives detailed guidance from the RL ERD. The safety of contaminated ground sites is the single most important factor in funding for their clean-up and/or stabilization.

### **3.2 BUDGETING CYCLE**

The budgeting cycle (fiscal year +2) begins each fiscal year upon receipt of budget guidance for the current fiscal year and (fiscal year +1) from DOE. Included in the guidance are funding levels, escalation, and inflation assumptions for the outyears. The DRCP also has prepared Activity Data Sheets (ADS) in support of the Office of Environmental Restoration and

Waste Management Five-Year Plan. The ADSs provide details by major projects and support all other budget submittals. The ADSs are updated annually as part of the Five-Year planning effort.

### 3.3 DETAIL PLANNING

The DRCP management initiates its detailed planning for the upcoming fiscal year during the first quarter of the current fiscal year. This planning begins by integrating guidance funding levels with long-range plan objectives to establish project priorities. The priorities along with workscope definitions are transmitted to ERO by CAAs. The CAAs are prepared by the activity manager and approved by the DRCP manager and the program business representative. The CAAs are sent to the appropriate cost account managers (CAM) to generate the CAPs. The CAMs are responsible for work package and task package development. The CAAs and CAPs are approved by the DRCP manager before initiating work on October 1 of the fiscal year. (See Figure 3 for the rollup process.)

The detailed planning and budgeting begin at the lowest level; that is, with each task-package manager providing the respective input into the development of the work package. The work package managers follow sequence by providing their input into the development of the cost accounts. This "rollup" process continues to the program level. These data are inputted into the Financial Data System (FDS) in a development mode until managements reaches a concensus and approves the workscope and schedules. Once the funded activities are approved and their total budget ties with the given funding parameters for the upcoming fiscal year, the planned activities are ready for monitoring and reporting of cost and schedule status information.

## 4.0 MANAGEMENT PROGRAM ASSUMPTIONS, CRITERIA, AND PRIORITIES

### 4.1 ASSUMPTIONS

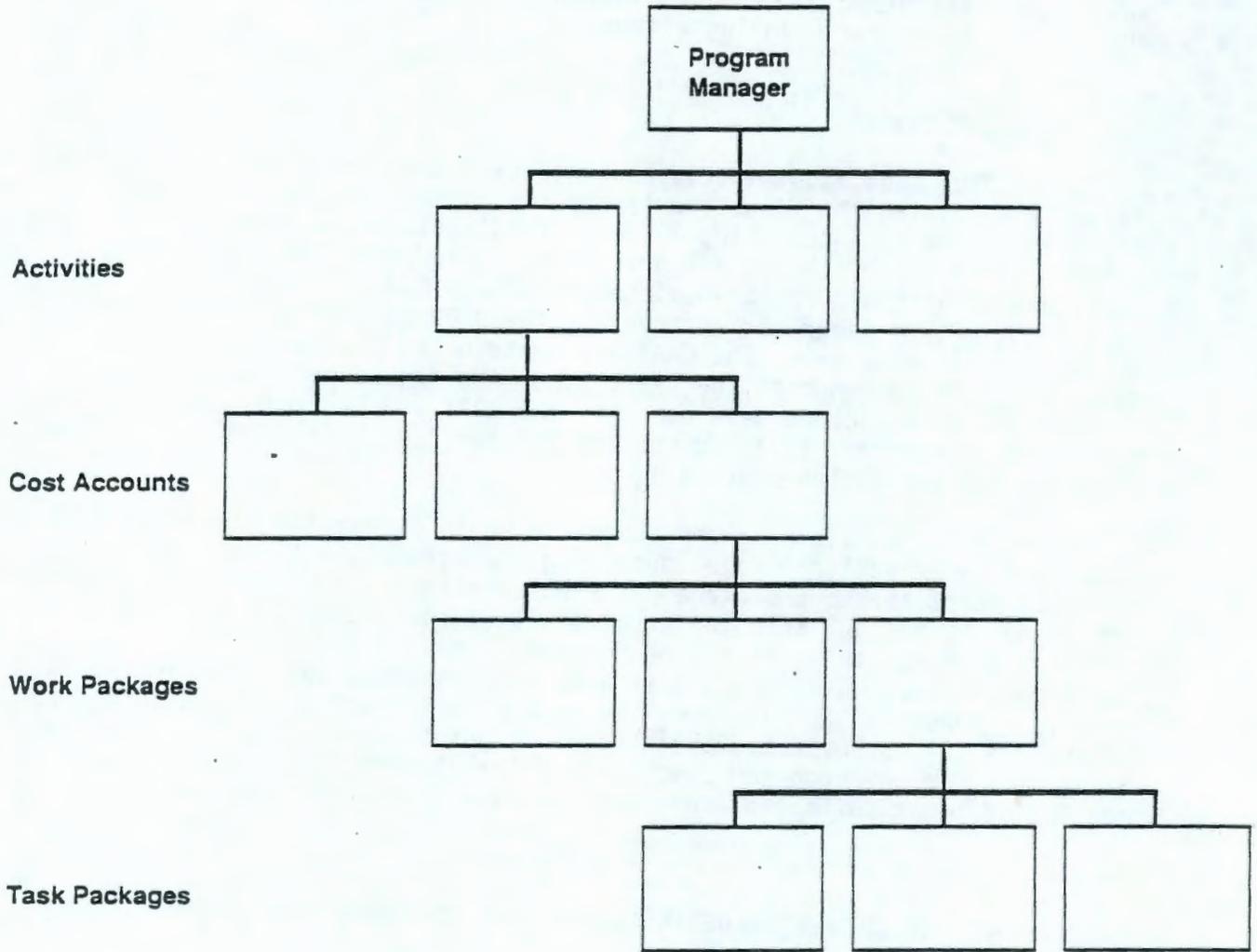
The program costs, management, and technical strategies presented in this plan are based on the assumptions listed below. These assumptions are based on experience gained in previous S&M, decommissioning work, engineering studies, and facility characterization.

The following assumptions are consistent with the guidance provided by RL. A change in any of the assumptions would result in the need to reevaluate this plan. The DRCP assumptions are as follows:

- The S&M requirements affecting safety and the environment have the highest priority and will be funded ahead of any other program activity. Additional maintenance activities are supported relative to the potential health risk involved and cost effectiveness.

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Figure 3. Rollup Process for Developing Cost Accounts.



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- Radiological dose rates to personnel and to members of the public will be controlled in accordance with DOE standards for radiation protection and will be reduced to as low as reasonably achievable levels.
- Soil stabilization of contaminated land areas is an S&M effort for interim protection of the environment and people pending final remedial investigation/feasibility study (RI/FS) or RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) activities.

## 4.2 CRITERIA

### 4.2.1 Assessing Interim Stabilization Alternatives Criteria

The following requirements and factors are used to assess the relative merits of several candidate stabilization methods to objectively determine the preferred alternative.

#### 4.2.1.1 Requirements.

- Interim stabilization will not eliminate any reasonable alternative for final disposition of a site.
- Interim stabilization will not interfere with planned RI/FS or RFI/CMS activities.

#### 4.2.1.2 Factors.

- Cost comparisons
- Post stabilization level of maintenance
- Projected duration of the stabilization action
- Potential side effects of the stabilization action
- Assessment of control compliance; i.e., does the interim stabilization method provide an adequate barrier between the contamination and the environment?
- Size of the land area under consideration
- Depth of the contamination in the soil
- Radiation level of the contaminated soil
- Source of the radioactive contamination.

Criteria used to evaluate each factor are based on the guidelines presented by the RL and are consistent with the WHC commitment to perform work projects in the safest and most cost-effective manner.

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#### 4.2.2 Environmental Protection Criteria

Before starting any decontamination and/or interim stabilization of contaminated soil at the Hanford Site, WHC, as an RL contractor, is required to comply with local, state, and Federal environmental protection criteria. Compliance will require a review of all applicable regulations of the *National Environmental Policy Act of 1969* (NEPA), Comprehensive Environmental Response, Compensation and Liability Act, RCRA, The Washington State Administrative Code (WAC) for dangerous waste (WHC 1990) and the *Hanford Federal Facility Agreement and Consent Order (Ecology et. al 1991)* (referred to as the *Tri-Party Agreement*). The requirements of these regulations are vitally important because of the range of environmental issues that may have to be addressed and the potential impact on the S&M budget and schedule.

The WHC has been advised by RL that these interim remediation activities are appropriate for coverage under the approved routine maintenance Categorical Exclusion and therefore, are currently excluded from further NEPA review and documentation.

#### 4.2.3 Safety Criteria

Until RI/FS or RFI/CMS remediation action is complete, routine S&M will be conducted at the inactive contaminated ground sites to maintain an industrial and radiological safe status and to correct any safety conditions found to be out of standard.

Completing the decontamination and/or interim stabilization work safely is of primary concern to WHC. Accordingly, all necessary safety precautions are taken to protect the workers, environment, and general public. Safety analysis documentation is required of all interim stabilization work unless it is considered not "significant" in which case it must be justified. Refer to a DOE memorandum entitled, "Safety and Health Review For Startup/Restart of Operations," dated February 6, 1991 for guidance.

#### 4.2.4 Quality Assurance

All line organizations performing S&M work are responsible for ensuring quality work in accordance with WHC established criteria. Refer to Hanford Restoration Quality Assurance Program Plan, WHC-CM-6-7, for guidance.

### 4.3 PROJECT PRIORITIES

#### 4.3.1 Prioritization Criteria

Because of the large number of sites requiring corrective action, a ranking list is needed to assure the most serious sites are addressed first. Appendix C represents the current list of ranked ground sites. An

9313022.1833

environmental and radiological ranking system was developed for these contaminated ground areas. Three numerical values are assigned to the control factors as follows:

1. LEVELS OF CONTAMINATION--Contamination levels from 1,000 counts/minute (c/m) to greater than 10 milliroentgen/hour (mr/h) are assigned a numerical value of 1 (lowest value) to 5 (highest value). Any alpha contamination is considered a high priority and receives a contamination value of 5.
2. PERSONNEL ACCESSIBILITY TO THE GROUNDS--Locations of ground areas are evaluated for accessibility by radiation zone workers, nonradiation zone workers, and the general public. A physically posted restricted area receives the lowest point value of 1 and progresses up to a value of 5 where the public could have access.
3. POTENTIAL MOBILITY OF CONTAMINATION--This ranking factor refers to the evaluation of the potential for, or where there is a history of, the contamination migrating to grounds outside of the radiological posted areas. Fixed contamination with low potential for movement and no existing history of migration receives a value of 1. The contamination progresses to a value of 5 where contamination is easily moved and/or where history indicates a migration problem.

#### 4.3.2 Prioritization of Projects

The criteria presented in Table 1 were used to establish the relative ranking of contaminated ground surface sites that require decontamination or stabilization. The Environmental Engineering Studies Function organization who receives and interprets the radiological data from the field have the primary responsibility for the ranking relative to environmental and radiological safety. This ranking is one of the key elements in prioritizing stabilization or decontamination efforts. In addition to the ranking, there are other important factors in establishing priority. The availability and efficient use of resources (i.e., personnel, equipment, and budget) also influence priority. Technical issues and engineering judgements, such as coordination with *Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA) investigations or available technology, can be used to adjust the priority. Priorities are reviewed at least annually, adjusted as needed, and changes reflected in the CAAs. Actual work for any given fiscal year will be identified and approved in the CAA, CAPs, and detailed work schedules.

Table 1. Priority Ranking Numerical Value.

| Contamination levels |   |
|----------------------|---|
| 1                    | Less than 1,000 c   |
| 2                    | Greater than 1,000 c/m but less than 2 mr/h   |
| 3                    | 2 mr/h to 5 mr/h  |
| 4                    | Greater than 5 mr/h to 10 mr/h  |
| 5                    | Greater than 10 mr/h or any removable alpha   |
| Area accessibility   |   |
| 1                    | Restricted area - radiation zone worker only  |
| 2                    | Inside exclusion fences with less than 10% chance of nonradiation zone worker accessibility |
| 3                    | Inside exclusion fences with 10% to 50% chance of nonradiation zone worker accessibility    |
| 4                    | Easy accessibility by nonradiation zone workers   |
| 5                    | Accessibility by non-employees  |
| Mobility risk        |   |
| 1                    | Fixed Contamination   |
| 2                    | 10% chance of migration or uptake by plants or animals                                      |
| 3                    | 20% TO 50% chance of migration or uptake by plants or animals                               |
| 4                    | Evidence of bio-uptake or contamination beginning to move around                            |
| 5                    | History of spreading contamination  |

#### 4.3.3 Stabilization Alternatives

Once the ground sites are prioritized, an interim stabilization alternative needs to be chosen. This is normally accomplished through an engineering evaluation. The following represents a typical outline for an engineering evaluation guided by the criteria discussed in Section 4.2.

- 1.0 PURPOSE
- 2.0 SITE DESCRIPTION
- 3.0 OBJECTIVES AND CONSTRAINTS
- 4.0 INTERIM STATUS ACTIVITIES
  - 4.1 SITE PREPARATION
  - 4.2 CONSOLIDATION AND STABILIZATION
  - 4.3 ACTIVITY DESCRIPTION
- 5.0 COMPARISON OF INTERIM STABILIZATION ALTERNATIVES
  - 5.1 CRITERIA FOR COMPARISON
  - 5.2 EXPECTED PERFORMANCE TO CRITERIA
- 6.0 CONCLUSIONS
- 7.0 REFERENCES

9313022-1835

## 5.0 WORK ELEMENTS

### 5.1 GENERAL

The work elements fall in three general categories.

1. Program management and administration
2. Surveillance and maintenance
3. Herbicide weed control program.

#### 5.1.1 Program Management and Administration

The program management and administration activity includes the DRCP manager, DRCP staff, and various support services. This activity provides the long-range planning, advanced engineering, and program management.

#### 5.1.2 Surveillance and Maintenance

The S&M activity includes the staff dedicated to this activity and the support services received from the various areas, such as Health Physics, Operations Support Services, and Quality Assurance. Costs for the S&M program will vary with the number and extent of decontamination, posting and/or stabilization of ground sites, and the degree of industrial and radiological safety provided or required to comply with the goals and objectives of WHC and RL.

#### 5.1.3 Herbicide Weed Control Program

The Hanford Site herbicide weed control program provides for minimizing vegetation growth along railroads and highways, preventing deep rooted weeds from intruding into underground radioactive contamination sites, and sustaining general weed control in landlord areas. As required by Washington State law, commercial pesticide sprayer-operators that include licensed and unlicensed personnel, must function under the guidance of Washington State Department of Agriculture Licensed Commercial Pesticide Applicator(s). The Environmental Division manages the WHC Herbicide Program by completing the following: (1) maintaining the technical expertise for the program, (2) determining times of Site grooming, (3) determining the type of herbicides to be applied, (4) determining the strength of the herbicides, and (5) determining when it is to be applied. These procedures include: monitoring the applications; maintaining records of applications; ensuring that WHC commercial pesticide operators stay current in their licenses; and interfacing with Washington State concerning WHC applications.

## 6.0 CONTROL

### 6.1 INDUSTRIAL AND RADIOLOGICAL SAFETY

In line with WHC policy to safely maintain contaminated ground sites according to DOE orders and in compliance with the letter and spirit of other applicable federal, state, and local regulations. Table 2 shows the orders critical to control the items listed below.

The safety of contaminated ground sites is the single most important factor in funding to eliminate the hazards and/or schedule these areas for stabilization.

#### 6.1.1 Industrial safety

Before starting work, safety procedures to cope with potential hazards and the safety conditions of the site are covered with the workers. During the progress of work, regular safety meetings and safety inspections are conducted. The personnel assigned to the project participate in all ongoing safety programs. Attendance sheets are signed by the participants of the safety meetings and the completed attendance sheets filed by management for record purposes.

#### 6.1.2 Radiological Safety

Monitoring for radiological and environmental safety will be in compliance with established controls. Waste disposal also must comply with DOE-RL Order 5820.2A (DOE-RL 1988b). The management of various types of waste generated during ground stabilization is outlined in the following sections. Personnel radiation zone work will be accomplished in accordance with approved radiation work permits

### 6.2 HANFORD SURFACE SOIL RADIOACTIVE CONTAMINATION CONTROL PLAN FLOW CHART

Figure 2 shows the activity flow and control that is necessary to take appropriate corrective action on sites identified as containing surface soil contamination.

Table 2. Regulatory Requirements.

| DOE Order           | Title  | Comments   |
|---------------------|--|--|
| 3790.1A (1984)      | Federal Employee Occupational Safety and Health Program  | Establishes the policy for implementing and administration of Occupational Safety and Health Program.  |
| 5000.3A (1990)      | Occurrence Reporting and Processing of Operations Information System                                     | Establishes U.S. Department of Energy policy and provides instructions for reporting, analyzing, and disseminating information on programmatic significant events. |
| 5100.3 (1984)       | Field Budget Process   | Establishes budget procedure and requirements.   |
| 5400.1 (1988)       | General Environmental protection Program   | The order defines environmental protection requirements.   |
| DOE/EH-0173T (1991) | Environmental Regulatory Guide for Radiological Effluent and Environmental Surveillance                  | Provides guidance for radiological monitoring and environmental surveillance.  |
| 5440.1E (1991)      | National Environmental Policy Act Compliance Program   | Establishes U.S. Department of Energy policy for implementation of National Environmental Policy Act 1969.   |
| 5480.1A (1988)      | Environmental Safety and Health Program for U.S. Department of Energy Operations for Richland Operations | Outlines environmental protection, safety and health protection policies and responsibilities.   |
| 5482.1B (1986)      | Environmental, Safety, and Health Appraisal Program  | Established U.S. Department of Energy environmental protection, safety, and health protection appraisal program.   |
| 5700.6C (1983)      | Quality Assurance  | Defines U.S. Department of Energy's Quality Assurance program.   |
| RL 5820.2A (1990)   | Radioactive Waste Management   | Policies and guidance for management of radioactive waste and contaminated facilities.   |
| 5482.1B (1986)      | Safety Analysis and Review System  | Provides a system for evaluating safety preparedness and approval to implement and proceed with work.  |

9313022-1838

Table 2. Regulatory Requirements.

| DOE Order                            | Title  | Comments  |
|--------------------------------------|--|---|
| 5400.3 (1989)                        | Hazardous and Radioactive Mixed Waste Management   | Provides instructions for implementing a U.S. Department of Energy hazardous waste management program.  |
| 5400.5 (1990)                        | Radiation Protection of the Public and the Environment                                   | Presents a program and standards for radiation protection.  |
| 5400.4 (1989)                        | Comprehensive Environmental Response, Compensation, and Liability Act Requirements       | Provides specific requirements  |
| 5484.1 (1981)                        | Environmental protection, Safety, and Health Protection Information Requirements         | Specifies requirements and procedures for reporting and investigating matters of environmental protection, safety, and health protection significant to U.S. Department of Energy operations.   |
| 58XX.XX Draft (1992)                 | Transition of Facilities to the Office of Environmental Restoration and Waste Management | Provides the requirements for transferring U.S. Department of Energy-owned or -operated buildings together with their associated land to EM-60.   |
| Washington State Administrative Code | Title  | Comments  |
| WAC 173-303                          | Dangerous Waste Regulations  | Identifies dangerous solid waste, defines surveillance and monitoring requirements, reporting and tracking requirements, regulations for citing, construction, operation and disposal of facilities, permit requirements, and encourages recycling. |

Note: WHC addresses the DOE regulations in various manuals, procedures, and data compilations.

### **6.3 MANAGEMENT OF WASTE GENERATED DURING GROUND STABILIZATION PROJECTS**

#### **6.3.1 Clean Waste**

Clean wastes such as wood, cloth, paper, plastic, and most construction materials that are free of radioactive contamination and other hazardous material are subject to regulation, and will be disposed of in approved clean waste landfills in accordance with WHC-CM-7-5, Environmental Compliance, Section 7.0.

#### **6.3.2 Mixed Waste**

Waste that is both a radioactive hazard and a chemical hazard is designated mixed waste. Mixed waste will be packaged and disposed of in accordance with provisions of Section 7.0 of WHC-CM-7-5 (WHC 1989a) and WAC-173-303, Dangerous Waste Regulations (WAC 1990) as implemented in WHC-CM-5-16, Hazardous Waste Management (WHC 1989c).

#### **6.3.3 High-Level Radioactive Waste**

Readily retrievable high-level waste will be processed to final immobilized form in the Defense Waste Processing Facility and the Waste Vitrification Plant before permanent disposal in a deep geological repository (WHC 1989a, DOE-RL 1988a).

#### **6.3.4 Transuranic Waste**

Transuranic waste will be transferred in compliance with DOE and Department of Transportation regulations to the Waste Isolation Pilot Plant for the interim storage and safe disposal (WHC 1989a, DOE-RL 1988b).

#### **6.3.5 Low-Level Radioactive Waste**

Low-level waste will be processed, packaged, and shipped to the approved low-level waste burial ground in the 200 Area (WHC 1989a, DOE-RL 1988b).

#### **6.3.6 Hazardous Waste**

The Washington State Dangerous Waste Regulations, WAC 173-303 (WAC 1990), will be used to classify the type of hazardous waste. The regulations in WAC 173-303 will be implemented by the applicable procedures in WHC Controlled Manuals 4-2, 2-14, 1-1, 1-3, and 7-5 (WHC 1990c, 1989b, 1990a, 1990b, and 1989a, respectively).

## 6.4 RADIOLOGICAL RELEASE AND POSTING REQUIREMENTS

### 6.4.1 Sites

Interim ground stabilization projects are primarily intended to provide a measure of control at surface soil contamination sites that will prevent radioactive contamination from migrating beyond the posted control boundaries. However, in some cases, where the contamination is essentially confined to the soil surface and there is no evidence of a contamination source below grade, the area will be completely decontaminated and the posting removed.

### 6.4.2 Equipment and Materials

Equipment and materials used in radiation zones for interim ground stabilization projects must meet the requirements specified in WHC-CM-4-10 Section 9.0 (WHC 1989d) before their removal from the controlled area. Where contaminated regulated equipment is used versus "clean" equipment, the removal from radiation zones must be handled in accordance with the requirements specified in WHC-CM-4-10, Section 9.

### 6.4.3 Posting

Radioactive contaminated ground sites are to be posted in accordance with the requirements in WHC-CM-4-10, Section 7 (WHC 1989d). After a ground site is stabilized, the new surface shall be surveyed. This will allow reclassification of these areas and be posted in accordance with the requirements of WHC-CM-4-10, Section 7 and Appendix D.

## 6.5 PROJECT MANAGEMENT AND CONTROL

The administrative controls for tracking cost and schedules are listed in the following subsections.

### 6.5.1 Cost and Schedule Performance Monitoring

The DRCP will track cost and schedule using the WHC Management Control System. This earned-value system tracks cost, schedule, and performance on a monthly basis and reports progress on all interim ground stabilization work projects. Cost-performance reports will be prepared through the FDS on a monthly basis. The reports will use the CAPs to establish a fiscal year performance baseline. Reports will compare scheduled cost, budget cost of work scheduled, to work performance, budget cost of work performed, to actual cost of work performed. Any deviations from the planned schedules or spending will be reported as a schedule variance (SV) or a cost variance (CV). If the variances exceed the thresholds of 10% or \$10,000, whichever is less, the CAM is required to complete a variance analysis report (VAR), returning it to the activity manager by the tenth working day of the following month. The VAR explains the reason for the SVs and CVs and provide corrective action and impact statements. Additionally, a current fiscal year and future year's

estimate at completion, along with a total estimate cost, will be calculated. The VAR information will be reviewed and approved by the activity manager. Changes to the work scheduled in the base plan will be documented by processing an change control request. An approved copy of the change request will be filed by Program Administration in the Program Office.

## 6.6 REGULATORY REQUIREMENTS

The DOE regulatory requirements are implemented through the various controlled manuals developed by WHC as management directives (see Table 2). These directives, as applicable to the DRCP, become part of the activities associated with S&M of the contaminated ground areas. The requirements provide employees with clear, documented guidelines consisting of policies, work procedures, performance requirements, process and equipment operational limits, and the following rules of conduct.

- Avoid or mitigate nuclear, radiological, environmental, or industrial safety incidents.
- Protect the general public and employees from injury.
- Avoid or mitigate production or property losses.
- Ensure compliance with DOE orders, state and federal laws and regulations, industrial codes and standards, requirements of prime contract with the DOE and Westinghouse Corporate policies.
- Ensure the financial integrity and cost effectiveness of operations of WHC.
- Ensure the quality and technical excellence of work performed.

## 7.0 DOCUMENTATION AND APPROVALS

### 7.1 SURVEILLANCE AND MAINTENANCE GUIDELINES

The S&M guidelines provide the S&M activities concerning responsibility, surveillance inspections, maintenance, monitoring, and record keeping. These guidelines set forth the S&M requirements that will be used in documenting unit procedures and tasks performed in S&M as outlined in site-specific instructions. These guidelines require the approval of the ERO manager.

The surface soil contamination sites will be maintained to meet the requirements of protective storage until final disposition.

## 7.2 GROUND STABILIZATION PROJECT WORK

The ground stabilization work requiring engineered action will be documented and approved in an engineering plan developed by Decommissioning Engineering in accordance with WHC-CM-7-5, Section 6.0, (WHC 1989b) and WHC-CM-6-1 (WHC 1988b). Routine fixes not requiring engineering will be performed by the Inactive Facilities Surveillance and Maintenance organization to be approved by its manager and documented in accordance with unit-specific procedures.

## 7.3 LIST OF HANFORD GROUND SITES

The Waste Information Data System list will be used as the source for developing and prioritizing sites to be monitored and stabilized under this program. The list will be updated as conditions dictate based on the routine surveys of the waste sites on the Hanford Site. The Data Management Technology group oversees the maintenance and updating of the list based on information received from other organizations in annual, semi-annual, and quarterly summary reports.

## 8.0 REFERENCES

- Comprehensive Environmental Response, Compensation and Liability Act of 1980*, 42 USC 9601 et seq.
- DOE, 1981, *Environmental Protection, Safety, and Health Protection Information Reporting Requirements*, DOE Orders 5484.1, U.S. Department of Energy, Washington, D.C.
- DOE, 1983, *Quality Assurance*, DOE Order 5700.6C, U.S. Department of Energy, Washington D.C.
- DOE, 1984a, *Federal Employee Occupational Safety and Health Program*, DOE Order 3790.1A, U.S. Department of Energy, Washington D.C.
- DOE, 1984b, *Field Budget Process*, DOE Order 5100.3, U.S. Department of Energy, Washington, D.C.
- DOE, 1986a, *Environment, Safety, and Health Appraisal Program*, DOE Order 5482.1B, U.S. Department of Energy, Washington D.C.
- DOE, 1986b, *Safety Analysis and Review System*, DOE Order 5481.1B, U.S. Department of Energy, Washington, D.C.
- DOE, 1988, *General Environmental Protection Program*, DOE Order 5400.1, U.S. Department of Energy, Washington, D.C.
- DOE, 1988b, *Radioactive Waste Management*, DOE Order 5820.2A, U.S. Department of Energy, Washington, D.C.

9313022-1843

- DOE, 1989a, *Comprehensive Environmental Response, Compensation and Liability Act Requirements*, DOE Order 5400.4, U.S. Department of Energy, Washington, D.C.
- DOE, 1989b, *Hazardous and Radioactive Mixed Waste Program*, DOE Order 5400.3, U.S. Department of Energy, Washington, D.C.
- DOE, 1990a, *Occurrence Reporting and Processing of Operations Information*, DOE Order 5000.3A, U.S. Department of Energy, Washington, D.C.
- DOE, 1990b, *Radiation Protection of the Public and the Environment*, DOE Order 5400.5, U.S. Department of Energy, Washington, D.C.
- DOE, 1991, *National Environmental Policy Act Compliance Program*, DOE Order 5440.1E, U.S. Department of Energy, Washington, D.C.
- DOE-RL, 1988, *Environment, Safety, and Health Program for Department of Energy Operations for Richland Operations*, DOE-RL Order 5480.1A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE-RL, 1990, *Radioactive Waste Management*, DOE-RL Order 5820.2A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- Ecology, EPA, and DOE, 1990, *Hanford Federal Facility Agreement and Consent Order*, 2 Volumes, Washington State Department of Ecology and U.S. Environmental Protection Agency, U.S. Department of Energy, Olympia, Washington.
- National Environmental Policy Act of 1969*, 42 USC 4321 et seq.
- Resource Conservation and Recovery Act of 1976*, 42 USC 6901 et seq.
- WAC 173-303, 1990, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended.
- WHC-CM-1-1, *Management Policies*, Revision 24, Westinghouse Hanford Company, Richland, Washington.
- WHC-CM-1-3, *Management Requirements and Procedures*, Revision 46, Westinghouse Hanford Company, Richland, Washington.
- WHC-CM-2-14, *Hazardous Material Packaging and Shipping*, Westinghouse Hanford Company, Richland, Washington.
- WHC-CM-4-2, *Quality Assurance Manual*, Releases 22-28, 30, Westinghouse Hanford Company, Richland, Washington.
- WHC-CM-4-3, *Industrial Safety Manual*, Westinghouse Hanford Company Richland, Washington.
- WHC-CM-4-10, *Radiation Protection*, Westinghouse Hanford Company, Richland, Washington.

WHC-CM-5-16, *Solid Waste Management*, Westinghouse Hanford Company, Richland, Washington.

WHC-CM-6-1, *Standard Engineering Practices*, WHC-CM-6-1, Westinghouse Hanford Company, Richland, Washington.

WHC-CM-6-9, *Hanford Restoration Surveillance and Maintenance Manual*, Westinghouse Hanford Company, Richland, Washington.

WHC-CM-7-5, *Environmental Compliance*, Westinghouse Hanford Company, Richland, Washington.

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**Appendix A**

**Contaminated Soil Surface Sites**

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## APPENDIX A

## CONTAMINATED SOIL SURFACE SITES

By using the Waste Information Data System (WIDS) as a basis for identifying areas with ground surface contamination at the Hanford Site, the following list of active and inactive sites require remedial action. This action will decontaminate the sites and/or stabilize the contaminated soil to prevent its migration outside of the control boundaries.

| Area  | Site type         | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|-------|-------------------|--|---------------------|----------------------------------|-----------------------------|
| 100B  | Retention basin   | 107-B Basin  | I                   |                                  | ERO                         |
| 100B  | Outfall structure | 116-B-7 (~600 ft west of the 1904-B2 outfall structure)          | I                   |                                  | ERO                         |
| 100C  | Retention basin   | 107-C Basin  | I                   |                                  | ERO                         |
| 100D  | Retention basin   | 107-D Basin (~1/3 mi north of 105-D)                             | I                   |                                  | ERO                         |
| 100D  | Outfall structure | 116-D-5 (~400 ft west of the 107-D Retention Basin)              | I                   |                                  | ERO                         |
| 100DR | Retention basin   | 107-DR Basin   | I                   |                                  | ERO                         |
| 100F  | Retention basin   | 107-F Basin (~1/2 mi northeast of 105-F)                         | I                   |                                  | ERO                         |
| 100F  | Trench            | 116-F-1 (750 ft northeast of the 105-F Building)                 | I                   |                                  | ERO                         |
| 100H  | Retention basin   | 107-H Basin (~1/5 mi northeast of 105-H)                         | I                   |                                  | ERO                         |
| 100H  | Trench            | 116-H-1 (350 ft south of the 107-H Retention Basin)              | I                   |                                  | ERO                         |
| 100H  | Solar Basin       | 183-H Basin  | I                   |                                  | ERO                         |
| 100K  | Crib              | 116-K-1  | I                   | 1992                             | ERO                         |
| 100K  | Outfall structure | 116-K-3 (Near the river shore north of the western 107-KE Basin) | A                   |                                  | NPO                         |
| 100KE | Retention basin   | 107-KE Basin   | I                   |                                  | ERO                         |
| 100KW | Retention basin   | 107-KW Basin   | I                   |                                  | ERO                         |

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| Area | Site type                    | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|------------------------------|---|---------------------|----------------------------------|-----------------------------|
| 100N | Crib                         | 116-N-1 (Northeast corner of the 100-N Area outside the fence line and 720 ft northeast of the 105-N Building)        | I                   |                                  | NPO                         |
| 100N | Crib                         | 116-N-3 (Northeast corner of the 100-N Area outside the fence line, 1,000 ft east and 200 ft north of the 1325N Crib) | A                   |                                  | NPO                         |
| 100N | Storage tank                 | 116-N-4 (~85 ft west of the 109-N Building)   | A                   |                                  | NPO                         |
| 200E | Burial ground                | 218-E-12B (~1,000 ft north of the 241-C Tank Farm and ~4,500 ft north of PUREX)                                       | A/I                 | 1992                             | ERO/SWM                     |
| 200E | Diversion box                | 241-ER-151 (~900 ft southwest of the 221-B Building)  | A                   |                                  | TFO                         |
| 200E | Diversion box                | 241-ER-152 (~300 ft south of the 224-B Building)  | A                   |                                  | TFO                         |
| 200E | Test treat./<br>support fac. | 244-A LS  | A                   |                                  | TFO                         |
| 200E | Receiving vault              | 244-CR Vault (~80 ft north of 7th Street, south of 241-C tanks and just southeast of 241-CR-151 Diversion Box)        | I                   |                                  | TFO                         |
| 200E | Unplanned<br>release         | UPR-200-E-101 (Between 242-B Evaporator and 241-B Tank Farm fence)<br>ALIAS-UN-216-E-30                               | I                   |                                  | TFO                         |

9313022-1849

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|---|---------------------|----------------------------------|-----------------------------|
| 200E | Unplanned<br>release | UPR-200-E-55 (The<br>roadway southeast of<br>the K-3 filter area<br>and the gravel area<br>southeast of the<br>212-B Building)  | I                   |                                  | B-PLANT                     |
| 200E | Unplanned<br>release | UPR-200-E-77 (Near<br>the 241-B-154<br>Diversion Box, east<br>of 221-B Building<br>and near the corner<br>of Baltimore Avenue<br>and 7th Street)<br>ALIAS- UN-216-E-5 | I                   |                                  | TFO                         |
| 200E | Unplanned<br>release | UPR-200-E-78 (An<br>area around the<br>241-BX-155 Diversion<br>Box and ~900 ft<br>south of the<br>241-BX Tank Farm)<br>ALIAS- UN-216-E-6                              | I                   |                                  | TFO                         |
| 200E | Unplanned<br>release | UPR-200-E-84<br>(~800 ft southwest<br>of the 221-B<br>Building and near<br>the 241-ER-151<br>Diversion Box)<br>ALIAS-UN-216-E-12                                      | I                   |                                  | TFO                         |
| 200E | Unplanned<br>release | UPR-200-E-86<br>(Outside the<br>southwest corner of<br>the 241-C Tank Farm)<br>ALIAS- UN-216-E-14   | I                   |                                  | TFO                         |
| 200E | Unplanned<br>release | UPR-200-E-88<br>(~900 ft northwest<br>of the 202-A<br>Building at the TC-4<br>railroad spur)<br>ALIAS-UN-216-E-23   | I                   |                                  | PUREX                       |
| 200E | Unplanned<br>release | UPR-200-E-89 (East<br>side of the 241-BX<br>Tank Farm, along<br>Baltimore Avenue)<br>ALIAS- UN-216-E-17   | I                   | 1991<br>Posted URM               | ERO                         |

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|---|---------------------|----------------------------------|-----------------------------|
| 200E | Unplanned<br>release | UPR-200-E-95 (The<br>railroad spur<br>between the 218-E-2A<br>and 218-E-5 Burial<br>Grounds)<br>ALIAS-UN-216-E-23   | I                   |                                  | B-PLANT                     |
| 200E | Retention basin      | 207-A (Directly east<br>of the 242-A<br>Evaporator)   | A                   |                                  | TFO                         |
| 200E | Crib                 | 216-A-1 (Inside the<br>200 East Area<br>perimeter fence<br>extension, 200 ft<br>east of the<br>241-A Tank Farm,<br>along Canton Avenue)   | I                   | 1992                             | ERO                         |
| 200E | Crib                 | 216-A-27 (~700 ft<br>south of the 202-A<br>Building and ~800 ft<br>west of Canton<br>Avenue, partly<br>within PUREX<br>exclusion area)  | I                   | ERO Section<br>Posted URM        | ERO/TFO                     |
| 200E | Ditch                | 216-A-29 (Outside<br>the 200 East Area<br>perimeter fence,<br>525 ft southeast of<br>the southeast corner<br>of the 241-A Tank<br>Farm. The unit<br>empties into<br>216-B-3-3 Ditch<br>which terminates at<br>217-B-3 Pond) | I                   | 1992                             | TFO                         |
| 200E | Crib                 | 216-A-30 (Outside<br>the 200 East Area<br>perimeter fence and<br>~1,600 ft east of<br>the 202-A Building)   | A                   | 1991                             | TFO                         |
| 200E | Crib                 | 216-A-36A (750 ft<br>south of the 202-A<br>Building and<br>1,150 ft west of<br>Canton Avenue)   | I                   |                                  | TFO                         |

9313022-1851

9313022-1851

| Area | Site type | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-----------|---|---------------------|----------------------------------|-----------------------------|
| 200E | Crib      | 216-A-36B (1,200 ft south of the 202-A Building)  | A                   |                                  | TFO                         |
| 200E | Crib      | 216-A-37-1 (Outside of the 200 East Area perimeter fence and 2,000 ft east of the 202-A Building)                             | A                   | Posted URM                       | TFO                         |
| 200E | Trench    | 216-A-40 (~500 ft west of the 241-AX Tank Farm and ~500 ft south of 7th Avenue)   | I                   |                                  | TFO                         |
| 200E | Crib      | 216-A-45 (~750 ft southwest of the 216-A-10 Crib)   | A                   | Posted URM                       | TFO                         |
| 200E | Crib      | 216-A-6 (Outside the 200 East Area perimeter fence, 1,000 ft east of the 202-A Building, and 250 ft east of Canton Avenue)    | I                   | 1993<br>Posted URM               | ERO                         |
| 200E | Crib      | 216-A-7 (Inside of the 200 East Area perimeter fence extension, 100 ft east of the 241-A Tank Farm across from Canton Avenue) | I                   | 1992                             | ERO                         |
| 200E | Crib      | 216-A-8 (East of the 200 East Area perimeter fence and ~650 ft northeast of the 241-A Tank Farm)                              | A                   |                                  | TFO                         |
| 200E | Crib      | 216-A-9 (500 ft west of the 241-A Tank Farm and 900 ft north of 275-EA Building along 4th Street)                             | I                   |                                  | ERO                         |

9313022-1852

| Area | Site type       | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-----------------|--|---------------------|----------------------------------|-----------------------------|
| 200E | Retention basin | 207-B (~2,000 ft northeast of the 221-B Building and south of the 241-B Tank Farm)   | A                   |                                  | B-PLANT                     |
| 200E | Reverse well    | 216-B-11A and -11B (~250 ft north of 241-B Tank Farm, ~400 ft east of Baltimore Avenue, and east of 216-B-7A and 216-B-7B Cribs)                             | I                   | 1992<br>Posted URM               | ERO                         |
| 200E | Crib            | 216-B-12 (1,000 ft northwest of 221-B Building)  | I                   | 1993                             | ERO                         |
| 200E | French drain    | 216-B-13 (~300 ft south of 221-B and 25 ft north of 291-B-1 Stack)   | I                   |                                  | B-PLANT                     |
| 200E | Crib            | 216-B-43 (200 ft north of 241-BY Tank Farm and 450 ft south of 12th Street. It is in a common area with 216-B-44 through 216-B-50)                           | I                   | 1991<br>Posted URM               | ERO                         |
| 200E | Crib            | 216-B-44 (300 ft north of 241-BY Tank Farm and 350 ft south of 12th Street. It is in a common area with 216-B-43 and 216-B-45 through 216-B-50)              | I                   | 1991 Posted<br>URM               | ERO                         |
| 200E | Crib            | 216-B-45 (400 ft north of 241-BY Tank Farm and 250 ft south of 12th Street. It is in a common area with 216-B-43 and 216-B-44 and 216-B-46 through 216-B-50) | I                   | 1991<br>Posted URM               | ERO                         |

9313022.1853

| Area | Site type    | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|--------------|--|---------------------|----------------------------------|-----------------------------|
| 200E | Crib         | 216-B-46 (500 ft north of 241-BY Tank Farm and 150 ft south of 12th Street. It is in a common area with 216-B-43 through 216-B-45 and 216-B-47 through 216-B-50) | I                   | 1991<br>Posted URM               | ERO                         |
| 200E | Crib         | 216-B-47 (200 ft north of 241-BY Tank Farm and 450 ft south of 12th Street. It is in a common area with 216-B-43 through 216-B-46 and 216-B-48 through 216-B-50) | I                   | 1991<br>Posted URM               | ERO                         |
| 200E | Crib         | 216-B-48 (300 ft north of 241-BY Tank Farm and 350 ft south of 12th Street. It is in a common area with 216-B-43 through 216-B-47 and 216-B-49 through 216-B-50) | I                   | 1991<br>Posted URM               | ERO                         |
| 200E | Crib         | 216-B-49 (400 ft north of 241-BY Tank Farm and 250 ft south of 12th Street. It is in a common area with 216-B-43 through 216-B-48 and 216-B-50)                  | I                   | 1991<br>Posted URM               | ERO                         |
| 200E | Reverse well | 216-B-5 (1,000 ft northeast of 221-B Plant, along Baltimore Avenue)  | I                   |                                  | ERO                         |

| Area | Site type       | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-----------------|--|---------------------|----------------------------------|-----------------------------|
| 200E | Crib            | 216-B-50 (~700 ft north of 241-BY Tank Farm and ~500 ft west of Baltimore Avenue. It is in a common area with 216-B-43 through 216-B-49) | I                   | 1991<br>Posted URM               | ERO                         |
| 200E | French Drain    | 216-B -51  | I                   | 1992<br>Posted URM               | ERO                         |
| 200E | Crib            | 216-B-55 (~600 ft west of 221-B Building)  | A                   |                                  | TFO                         |
| 200E | Crib            | 216-B-57 (~800 ft west of Baltimore Avenue and ~800 ft south of 12th Street)   | I                   | 1991<br>Posted URM               | ERO                         |
| 200E | Retention basin | 216-B-59 (~700 ft northeast of the 221-B Building)   | A                   |                                  | B-PLANT                     |
| 200E | Crib            | 216-B-62 (~1,500 ft northwest of 221-B Building)   | A                   |                                  | TFO                         |
| 200E | Ditch           | 216-B-63 (320 ft east of the 242-B Evaporator Building and north of the 216-B-3 Ditch)   | A                   |                                  | TFO                         |
| 200E | Retention basin | 216-B-64 (~250 ft west of 221-B Building)  | A                   |                                  | B-PLANT                     |
| 200E | Crib            | 216-B-7A and -7B (North of 241-B Tank Farm, along Baltimore Avenue)  | I                   | 1992<br>Posted URM               | ERO                         |
| 200E | Crib            | 216-B-9 Crib and Tile Field  | I                   | 1992                             | ERO                         |
| 200E | Crib            | 216-B-9TF (1,250 ft south of 241-B Tank Farm, along Baltimore Avenue)  | I                   | 1992                             | ERO                         |

9313022.1855

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200E | Unplanned<br>release | UPR-200-E-69 (The<br>221-B railroad cut,<br>tunnel, and track)   | I                   |                                  | B-PLANT                     |
| 200E | Unplanned<br>release | UPR-200-E-85 (The<br>R-13 Utility Pit<br>directly south of<br>the center of the<br>221-B Building)<br>ALIAS- UN-216-E-13                     | I                   |                                  | B-PLANT                     |
| 200E | French Drain         | 216-C-8  | I                   | 1991                             | ERO                         |
| 200E | Crib                 | 216-C-10 (400 ft<br>south of 7th Street<br>and 300 ft southeast<br>of the 201-C<br>Building)   | I                   | 1992<br>Posted URM               | ERO                         |
| 200W | Burial ground        | 218-W-3AE (Directly<br>east and adjacent to<br>the 218-W-3A Burial<br>Ground)  | A                   |                                  | SWM                         |
| 200W | Burial ground        | 218-W-4C (~500 ft<br>west and ~1,500 ft<br>south of the<br>234-5Z Building)  | A                   |                                  | SWM                         |
| 200W | Burial ground        | 218-W-9 (~1,000 ft<br>northwest of the<br>202-S Building)  | I                   | 1991<br>Posted URM               | ERO                         |
| 200W | Single-shell<br>tank | 241-S-101 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-102 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |

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| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-S-103 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-104 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-105 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-106 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-107 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |

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| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-S-108 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-109 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-110 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-111 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-S-112 (The 241-S<br>Tank Farm is<br>~2,300 ft northwest<br>of the 202-S<br>Building and<br>directly north of<br>the 241-SX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Valve pit            | 241-S-A (Just south<br>and in between tanks<br>241-S-101 and<br>241-S-102, adjacent<br>to and on the same<br>center line as<br>241-S-B)      | A                   |                                  | TFO                         |

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| Area | Site type         | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Valve pit         | 241-S-B (Just south and in between tanks 241-S-101 and 241-S-102, adjacent to and on the same center line as 241-S-A)    | A                   |                                  | TFO                         |
| 200W | Valve pit         | 241-S-C (Just south and in between tanks 241-S-107 and 241-S-108, adjacent to and on the same center line as 241-S-D)    | A                   |                                  | TFO                         |
| 200W | Valve pit         | 241-S-D (Just south and in between tanks 241-S-107 and 241-S-108, adjacent to and on the same center line as 241-S-C)    | A                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-SX-101 (The 241-SX Tank Farm is ~2,000 ft northwest of the 202-S Building and directly south of the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-SX-102 (The 241-SX Tank Farm is ~2,000 ft northwest of the 202-S Building and directly south of the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-SX-103 (The 241-SX Tank Farm is ~2,000 ft northwest of the 202-S Building and directly south of the 241-S Tank Farm) | I                   |                                  | TFO                         |

9313022.1859

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-SX-104 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-105 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-106 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-107 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-108 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-109 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |

0981-220186

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-SX-110 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-111 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-112 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-113 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-114 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-SX-115 (The<br>241-SX Tank Farm is<br>~2,000 ft northwest<br>of the 202-S<br>Building and<br>directly south of<br>the 241-S Tank Farm) | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-SX-151 (East of<br>241-SX-101 Tank and<br>241-SX-302 Catch<br>Tank)  | I                   |                                  | TFO                         |

| Area | Site type         | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Diversion box     | 241-SX-152 (North and slightly east of the 241-SX-101 Tank)  | I                   |                                  | TFO                         |
| 200W | Building          | 241-SX-401 CSB (West of the 241-SX-106 Tank, north of and in line with 241-SX-402)   | I                   |                                  | ERO                         |
| 200W | Building          | 241-SX-402 CSB (West of the 241-SX-109 Tank, south of and in line with 241-SX-401)   | I                   |                                  | ERO                         |
| 200W | Double-shell tank | 241-SY-101 (The 241-SY Tank Farm is ~2,500 ft northwest of the 202-S Building and adjacent to the northeast corner of the 241-S Tank Farm) | A                   |                                  | TFO                         |
| 200W | Double-shell tank | 241-SY-102 (The 241-SY Tank Farm is ~2,500 ft northwest of the 202-S Building and adjacent to the northeast corner of the 241-S Tank Farm) | A                   |                                  | TFO                         |
| 200W | Double-shell tank | 241-SY-103 (The 241-SY Tank Farm is ~2,500 ft northwest of the 202-S Building and adjacent to the northeast corner of the 241-S Tank Farm) | A                   |                                  | TFO                         |
| 200W | Diversion box     | 241-SY-A (South of and in between tanks 241-SY-101 and 241-SY-102, west of and in line with 241-SY-B)                                      | A                   |                                  | TFO                         |

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| Area | Site type         | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Diversion box     | 241-SY-B (South of and in between tanks 241-SY-101 and 241-SY-102, east of and in line with 241-SY-A)                           | A                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-T-101 (The 241-T Tank Farm is ~2,000 ft west of the 221-T Building, directly north of the 241-TY Tank Farm and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-T-102 (The 241-T Tank Farm is ~2,000 ft west of the 221-T Building, directly north of the 241-TY Tank Farm and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-T-103 (The 241-T Tank Farm is ~2,000 ft west of the 221-T Building, directly north of the 241-TY Tank Farm and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-T-104 (The 241-T Tank Farm is ~2,000 ft west of the 221-T Building, directly north of the 241-TY Tank Farm and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-T-105 (The 241-T Tank Farm is ~2,000 ft west of the 221-T Building, directly north of the 241-TY Tank Farm and 23rd Street) | I                   |                                  | TFO                         |

9313022.1863

9313022.1863

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-T-106 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank Farm<br>and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-T-107 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank Farm<br>and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-T-108 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank Farm<br>and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-T-109 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank Farm<br>and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-T-110 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank Farm<br>and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-T-111 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank Farm<br>and 23rd Street) | I                   |                                  | TFO                         |

930022.004

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-T-112 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank Farm<br>and 23rd Street) | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-T-151 (West of<br>241-T-110 and<br>241-T-153 and<br>directly northeast<br>of 241-T-152)   | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-T-152 (Southwest<br>of the<br>207-T Retention<br>Basin, just north of<br>23rd Street)   | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-T-153 (Within<br>the 241-T Tank Farm,<br>east of 241-T-110<br>Tank)   | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-T-202 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank and<br>23rd Street)      | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-T-203 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank and<br>23rd Street)      | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-T-204 (The 241-T<br>Tank Farm is<br>~2,000 ft west of<br>the 221-T Building,<br>directly north of<br>the 241-TY Tank and<br>23rd Street)      | I                   |                                  | TFO                         |

9313022.1865

| Area | Site type         | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Diversion box     | 241-T-252 (Within the 241-T Tank Farm, just north of 23rd Street and southwest of 241-T-112 Tank)                         | I                   |                                  | TFO                         |
| 200W | Catch tank        | 241-T-301 CT (Just east of 241-T-252 Diversion Box and south of 241-T-112 Tank)   | I                   |                                  | TFO                         |
| 200W | Catch tank        | 241-T-302   | I                   |                                  | TFO                         |
| 200W | Diversion box     | 241-TR-152 (Just east of 241-T-104 Tank)  | I                   |                                  | TFO                         |
| 200W | Diversion box     | 241-TR-153 (Just east of 241-T-107 Tank)  | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-TX-101 (The 241-TX Tank Farm is ~2,500 ft southwest of the 221-T Building and directly south of the 241-TY Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-TX-102 (The 241-TX Tank Farm is ~2,500 ft southwest of the 221-T Building and directly south of the 241-TY Tank Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell tank | 241-TX-103 (The 241-TX Tank Farm is ~2,500 ft southwest of the 221-T Building and directly south of the 241-TY Tank Farm) | I                   |                                  | TFO                         |

9313022.1866

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-TX-104 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-105 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-106 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-107 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-108 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |

9313022.1867

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-TX-109 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-110 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-111 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-112 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-113 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |

9313022, 1863

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-TX-114 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-115 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-116 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-117 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TX-118 (The<br>241-TX Tank Farm is<br>~2,500 ft southwest<br>of the 221-T<br>Building and<br>directly south of<br>the 241-TY Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-TX-153 (West of<br>Camden Avenue within<br>the 241-TX Tank<br>Farm, southeast of<br>241-TX-101 Tank)                                       | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-TX-154   | A                   |                                  | TFO                         |

9313022.1869

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Diversion box        | 241-TX-155   | I                   |                                  | TFO                         |
| 200W | Catch tank           | 241-TX-302-A   | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-TXR-152  | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-TXR-153  | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TY-101 (The<br>241-TY Tank Farm is<br>~2,400 ft southwest<br>of the 221-T<br>Building and<br>directly north of<br>the 241-TX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TY-102 (The<br>241-TY Tank Farm is<br>~2,400 ft southwest<br>of the 221-T<br>Building and<br>directly north of<br>the 241-TX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TY-103 (The<br>241-TY Tank Farm is<br>~2,400 ft southwest<br>of the 221-T<br>Building and<br>directly north of<br>the 241-TX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TY-104 (The<br>241-TY Tank Farm is<br>~2,400 ft southwest<br>of the 221-T<br>Building and<br>directly north of<br>the 241-TX Tank<br>Farm) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-TY-105 (The<br>241-TY Tank Farm is<br>~2,400 ft southwest<br>of the 221-T<br>Building and<br>directly north of<br>the 241-TX Tank<br>Farm) | I                   |                                  | TFO                         |

9313022.1870

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-TY-106 (The 241-TY Tank Farm is ~2,400 ft southwest of the 221-T Building and directly north of the 241-TX Tank Farm)                    | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-TY-153 (Within the 241-TY Tank Farm, ~70 ft north of the 242-T Evaporator Building)  | I                   |                                  | TFO                         |
| 200W | Catch tank           | 241-TY-302-A (Within the 241-TY Tank Farm, ~150 ft north of the 242-T Evaporator Building, and ~63 ft north of the 241-TY-153 Diversion Box) | I                   |                                  | TFO                         |
| 200W | Catch tank           | 241-TY-302-B (Within the 241-TY Tank Farm, ~170 ft east of 241-TY-101 Tank)  | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-101 (The 241-U Tank Farm is ~2,100 ft west of the 221-U Building and 1,500 ft north of the 241-S Tank Farm, just north of 18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-102 (The 241-U Tank Farm is ~2,100 ft west of the 221-U Building and 1,500 ft north of the 241-S Tank Farm, just north of 18th Street) | I                   |                                  | TFO                         |

9313022.1871

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-U-103 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-104 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-105 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-106 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-107 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |

9313022.1872

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-U-108 (The 241-U Tank Farm is ~2,100 ft west of the 221-U Building and 1,500 ft north of the 241-S Tank Farm, just north of 18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-109 (The 241-U Tank Farm is ~2,100 ft west of the 221-U Building and 1,500 ft north of the 241-S Tank Farm, just north of 18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-110 (The 241-U Tank Farm is ~2,100 ft west of the 221-U Building and 1,500 ft north of the 241-S Tank Farm, just north of 18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-111 (The 241-U Tank Farm is ~2,100 ft west of the 221-U Building and 1,500 ft north of the 241-S Tank Farm, just north of 18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-112 (The 241-U Tank Farm is ~2,100 ft west of the 221-U Building and 1,500 ft north of the 241-S Tank Farm, just north of 18th Street) | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-U-153  | I                   |                                  | TFO                         |

9313022.1873

1417055.1055

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Single-shell<br>tank | 241-U-201 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-202 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-203 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |
| 200W | Single-shell<br>tank | 241-U-204 (The 241-U<br>Tank Farm is<br>~2,100 ft west of<br>the 221-U Building<br>and 1,500 ft north<br>of the 241-S Tank<br>Farm, just north of<br>18th Street) | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-U-252   | I                   |                                  | TFO                         |
| 200W | Catch tank           | 241-U-301   | A                   |                                  | TFO                         |
| 200W | Diversion box        | 241-UA  | A                   |                                  | TFO                         |
| 200W | Diversion box        | 241-UB  | A                   |                                  | TFO                         |
| 200W | Diversion box        | 241-UC  | A                   |                                  | TFO                         |
| 200W | Diversion box        | 241-UD  | A                   |                                  | TFO                         |
| 200W | Diversion box        | 241-UR-151  | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-UR-152  | I                   |                                  | TFO                         |
| 200W | Diversion box        | 241-UR-153  | I                   |                                  | TFO                         |

9313022, 1874

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Diversion box        | 241-UR-154   | I                   |                                  | TFO                         |
| 200W | Diversion box        | 242-T-151<br>(Immediately<br>southeast of<br>241-TX-116 Tank)  | I                   |                                  | TFO                         |
|      | Lift Station         | 244-A Lift Station   | A                   |                                  | TFO                         |
| 200W | Receiving vault      | 244-TX Vault (South<br>end of the 241-TX<br>Tank Farm)   | A                   |                                  | TFO                         |
| 200W | Receiving vault      | 244-U Vault  | A                   |                                  | TFO                         |
| 200W | Receiving vault      | 244-UR RT (North of<br>the 241-U Tank Farm)  | A                   |                                  | TFO                         |
| 200W | Septic tank          | 2607-WT  | A                   |                                  | TFO                         |
| 200W | Septic tank          | 2607-WTX   | A                   |                                  | TFO                         |
| 200W | Septic tank          | 2607-WUT   | A                   |                                  | TFO                         |
| 200W | Unplanned<br>release | (UPR-200-W-100)<br>(Within the 241-TX<br>Tank Farm, north of<br>the 241-TX Diversion<br>Box)   | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-109 (Just<br>inside the east<br>perimeter chain of<br>the 218-W-9 site,<br>south of 13th Street<br>and north of<br>216-S-7 Crib) ALIAS-<br>UN-216-W-19 | I                   | 1991<br>Posted URM               | ERO                         |
| 200W | Unplanned<br>release | UPR-200-W-114 (East<br>of the 241-SX Tank<br>Farm)<br>ALIAS-UN-216-W-24  | I                   |                                  | ERO                         |
| 200W | Unplanned<br>release | UPR-200-W-116<br>(~300 ft north of<br>the 202-S Building)<br>ALIAS- UN-216-W-26  | I                   |                                  | ERO                         |
| 200W | Unplanned<br>release | UPR-200-W-12 (On the<br>south side of the<br>242-T Building)   | I                   |                                  | TFO                         |

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Unplanned<br>release | UPR-200-W-126 (Next<br>to the 241-TX-153<br>Diversion Box)                                  | I                   |                                  | TF0                         |
| 200W | Unplanned<br>release | UPR-200-W-128<br>(Surrounding<br>241-U-103 Tank<br>inside the<br>241-U Tank Farm)           | I                   |                                  | TF0                         |
| 200W | Unplanned<br>release | UPR-200-W-129 (The<br>pump pit at the<br>214-TX-113 Tank<br>inside the 241-TX<br>Tank Farm) | I                   |                                  | TF0                         |
| 200W | Unplanned<br>release | UPR-200-W-140<br>(Surrounding<br>241-SX-107 Tank<br>inside the 241-SX<br>Tank Farm)         | I                   |                                  | TF0                         |
| 200W | Unplanned<br>release | UPR-200-W-141<br>(Surrounding<br>241-SX-108 Tank<br>inside the 241-SX<br>Tank Farm)         | I                   |                                  | TF0                         |
| 200W | Unplanned<br>release | UPR-200-W-142<br>(Surrounding<br>241-SX-109 Tank<br>inside the 241-SX<br>Tank Farm)         | I                   |                                  | TF0                         |
| 200W | Unplanned<br>release | UPR-200-W-143<br>(Surrounding<br>241-SX-111 Tank<br>inside the 241-SX<br>Tank Farm)         | I                   |                                  | TF0                         |
| 200W | Unplanned<br>release | UPR-200-W-144<br>(Surrounding<br>241-SX-112 Tank<br>inside the 241-SX<br>Tank Farm)         | I                   |                                  | TF0                         |
| 200W | Unplanned<br>release | UPR-200-W-145<br>(Surrounding<br>241-SX-113 Tank<br>inside the 241-SX<br>Tank Farm)         | I                   |                                  | TF0                         |

9313022.1875

| Area | Site type            | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Unplanned<br>release | UPR-200-W-146<br>(Surrounding<br>241-SX-115 Tank<br>inside the 241-SX<br>Tank Farm)  | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-147<br>(Southeast side of<br>the 241-T-103 Tank)                           | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-148<br>(Extending 23 ft<br>horizontally from<br>the 241-T-106 Tank)        | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-149<br>(Inside the 241-TX<br>Tank Farm<br>surrounding<br>241-TX-107 Tank)  | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-150<br>(Inside the 241-TY<br>Tank Farm,<br>surrounding<br>241-TY-103 Tank) | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-151<br>(Inside the 241-TY<br>Tank Farm,<br>surrounding<br>241-TY-104 Tank) | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-152<br>(Inside the 241-TY<br>Tank Farm,<br>surrounding<br>241-TY-105 Tank) | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-153<br>(Inside the 241-TY<br>Tank Farm,<br>surrounding<br>241-TY-106 Tank) | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-154<br>(Inside the<br>241-U Tank Farm,<br>surrounding<br>241-U-101)        | I                   |                                  | TFO                         |

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|----------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Unplanned<br>release | UPR-200-W-155<br>(Inside the<br>241-U Tank Farm,<br>surrounding<br>241-U-101)   | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-156<br>(Inside the<br>241-U Tank Farm,<br>surrounding<br>241-U-110)   | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-157<br>(Inside the<br>241-U Tank Farm,<br>surrounding<br>241-U-112)   | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-17 (In the<br>major construction<br>zone south of the<br>241-TX Tank Farm)  | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-24 (Road<br>near the 241-UR Tank<br>Farm)   | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-71 (Spots<br>along the route from<br>the 241-U Tank Farm<br>to the 200 West<br>Burial Ground,<br>including 16th<br>Street and Dayton<br>Avenue) | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-76 (Around<br>the 241-TX-155<br>Diversion Box)  | I                   |                                  | TFO                         |
| 200W | Unplanned<br>release | UPR-200-W-97 (An<br>area from the<br>southeast corner of<br>23rd Street and<br>Camden Avenue, south<br>to near 22nd Street)<br>ALIAS- UN-216-W-5          | I                   | Currently<br>posted URM          | ERO                         |

9313022-1878

| Area | Site type            | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed         | Responsible<br>organization |
|------|----------------------|---|---------------------|--|-----------------------------|
| 200W | Unplanned<br>release | UPR-200-W-99 (An<br>area 250 yd north<br>and south along<br>Camden Avenue and<br>extending from 75 to<br>100 yd east of<br>Camden Avenue) | I                   |  | TFO                         |
| 200W | Retention basin      | 207-S (1,200 ft west<br>of 202-S [REDOX] and<br>~200 ft north of<br>10th Street)  | I                   |  | ERO                         |
| 200W | Retention basin      | 207-SL (~200 ft east<br>of 222-S Building<br>and ~1,000 ft west<br>of Beloit Avenue)  | A                   | Currently<br>posted URM                  | LAB                         |
| 200W | Crib                 | 216-S-1 and -2<br>(~1,600 ft northwest<br>of the<br>202-S Building and<br>200 ft southeast of<br>the<br>241-S-151 Diversion<br>Box)       | I                   |  | ERO                         |
| 200W | Ditch                | 216-S-10D (Begins<br>~1,463 ft southwest<br>of the 202-S<br>Building and 133 ft<br>south of 10th<br>Street)                               | A/I                 | The inactive<br>section is<br>posted URM | TFO/ERO                     |
| 200W | Crib                 | 216-S-13 (532 ft<br>west of the 202-S<br>Building and 608 ft<br>north of 10th<br>Street)  | I                   | 1992<br>Posted URM                       | ERO                         |
| 200W | Pond                 | 216-S-15  | I                   |  | ERO                         |
| 200W | Control<br>structure | S-2904-S-172  | I                   | 1991                                     | ERO                         |
| 200W | Crib                 | 216-S-20 (304 ft<br>southeast of the<br>202-S Building and<br>300 ft north of 10th<br>Street)   | I                   |  | ERO                         |

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9313022.1879

| Area | Site type    | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|--------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Crib         | 216-S-21 (2,736 ft northwest of the 202-S Building, 152 ft north of 13th Street, and west of the 241-S Tank Farm)   | I                   | 1991                             | ERO                         |
| 200W | Crib         | 216-S-23 (~2,400 ft north-northeast of the 202-S Building and slightly west and north of the 216-S-9 Crib)  | I                   |                                  | ERO                         |
| 200W | Crib         | 216-S-25 (300 ft south of 13th Street, 2,800 ft northwest of the 202-S Building and west of the 241-SX Tank Farm; outside to 200 West perimeter fence, south and east of 216-U-10 Pond) | A                   | Posted URM                       | TFO                         |
| 200W | Crib         | 216-S-26 (~500 ft southeast of 222-S Building, outside the 200 West Area perimeter fencing)   | A                   | Posted URM                       | TFO                         |
| 200W | French drain | 216-S-3 (250 ft north of 13th Street along the east border of the 241-S Tank Farm east of 104-S Tank)   | I                   |                                  | ERO                         |
| 200W | French drain | 216-S-4 (307 ft north of 13th Street, between the 241-S Tank Farm and the 216-U-10 Pond)  | I                   | 1991<br>Posted URM               | ERO                         |
| 200W | Crib         | 216-S-7 (~900 ft northwest of the 202-S Building)   | I                   | 1992<br>Posted URM               | ERO                         |

| Area | Site type         | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Trench            | 216-S-8 (~600 ft south of 13th Street and 1,500 ft west of the railroad tracks, directly east of the 241-SX Tank Farm)         | I                   |                                  | ERO                         |
| 200W | Crib              | 216-S-9 (250 ft north of 13th Street and 300 ft west of the railroad tracks)   | I                   |                                  | ERO                         |
| 200W | Burial ground     | 218-W-7 (40 ft southeast of the 222-S Building)  | I                   | Posted URM                       | ERO                         |
| 200W | Storage pad       | 222-S LSP (Just north of the northwest corner of the 222-S Building)   | A                   |                                  | LAB                         |
| 200W | Diversion box     | 240-S-151 DB   | I                   |                                  | TFO                         |
| 200W | Control structure | 2904-S-160   | I                   | 1991<br>Posted URM               | ERO                         |
| 200W | Unplanned release | UPR-200-W-108 (~200 ft north of 13th Street at the south end of the 216-S-9 Crib) ALIAS-UN-216-W-18                            | I                   |                                  | TFO                         |
| 200W | Unplanned release | UPR-200-W-51 (A narrow strip of ground south of 241-S-151 Diversion Box, across 10th Street and ~100 yd beyond the area fence) | I                   |                                  | TFO                         |
| 200W | Retention basin   | 207-T (~1,500 ft north of 221-T Building and 380 ft west of Beloit Avenue)   | A                   |                                  | T-PLANT                     |
| 200W | Ditch             | 216-T-1 (200 ft north of 221-T Building and 380 ft west of Beloit Avenue)  | A                   |                                  | TFO                         |

| Area | Site type    | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|--------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Trench       | 216-T-14 (500 ft north of 23rd Street, 2,000 ft west of the 224-T Building, and 50 yd north of the 207-T Retention Basin)   | I                   | 1992<br>Posted URM               | ERO                         |
| 200W | Trench       | 216-T-15 (500 ft north of 23rd Street and 2,000 ft west of the 224-T Building and 50 yd north of the 207-T Retention Basin) | I                   | 1992<br>Posted URM               | ERO                         |
| 200W | Trench       | 216-T-16 (500 ft north of 23rd Street and 2,000 ft west of the 224-T Building and 50 yd north of the 207-T Retention Basin) | I                   | 1992<br>Posted URM               | ERO                         |
| 200W | Trench       | 216-T-17 (500 ft north of 23rd Street and 2,000 ft west of the 224-T Building)  | I                   | 1992<br>Posted URM               | ERO                         |
| 200W | Crib         | 216-T-19 (Directly south of 241-TX Tank Farm, 40 ft west of Camden Avenue, and 3,100 ft southwest of 221-T Building)        | I                   | 1991                             | ERO                         |
| 200W | Crib         | 216-T-29 (190 ft east of the 221-T Building and 95 ft west of Beloit Avenue)  | I                   |                                  | TFO                         |
| 200W | Reverse well | 216-T-3 (150 ft north of 23rd Street between 241-T-361 and 216-T-6 sites)   | I                   |                                  | ERO                         |

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| Area | Site type         | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Crib              | 216-T-32 (250 ft north of 23rd Street and 750 ft west of the 207-T Retention Basin within the confines of 241-T Tank Farm) | I                   | 1992                             | TFO                         |
| 200W | Crib              | 216-T-33 (250 ft west of 2706-T Building and 900 ft north of 23rd Street)  | I                   | 1992<br>Posted URM               | ERO                         |
| 200W | Crib              | 216-T-36 (40 ft south of 23rd Street and directly south of the 241-T Tank Farm)  | I                   | 1992<br>Posted URM               | ERO                         |
| 200W | Crib              | 216-T-6 (150 ft north of 23rd Street and 1,250 ft west of the 224-T Building, just west of 216-T-3)                        | I                   |                                  | ERO                         |
| 200W | Burial ground     | 218-W-8 (30 yd southeast of the 222-T Building)  | I                   |                                  | ERO                         |
| 200W | Unplanned release | UPR-200-W-102 (On the southeast side of the 224-T Building)<br>ALIAS- UN-216-W-12  | I                   |                                  | T-PLANT                     |
| 200W | Unplanned release | UPR-200-W-3 (T-Plant railroad cut)   | A                   |                                  | T-PLANT                     |
| 200W | Unplanned release | UPR-200-W-65 (T-Plant railroad cut)  | A                   |                                  | T-PLANT                     |
| 200W | Unplanned release | UPR-200-W-98 (At the southeast corner of the 221-T Building, at Section R-19)<br>ALIAS- UN-216-W-6                         | I                   |                                  | T-PLANT                     |

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| Area | Site type       | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-----------------|--|---------------------|----------------------------------|-----------------------------|
| 200W | Retention basin | 207-U (~1,700 ft west of 221-U Building and ~200 ft north of 16th Street, east of the 241-U Tank Farm)     | A                   |                                  | TFO                         |
| 200W | Crib            | 216-U-1 and -2 (200 ft north of 16th Street and 1,000 ft east of the 207-U Retention Basin)                | I                   | 1992<br>Posted URM               | ERO                         |
| 200W | Crib            | 216-U-12 (2,130 ft south of the 221-U Building and 460 ft north of Beloit Avenue)                          | I                   | 1992                             | TFO                         |
| 200W | Crib            | 216-U-16 (South of 16th Street, midway between Beloit and Cooper Avenues, southwest of the 224-U Building) | I                   | Posted URM                       | TFO                         |
| 200W | Crib            | 216-U-17 (~940 ft southeast-east of UO <sub>2</sub> Plant and 1,000 ft northeast of the 216-U-12 Crib)     | A                   | Posted URM                       | TFO                         |
| 200W | French drain    | 216-U-3 (1,000 ft west of the railroad tracks and 50 ft south of 16th Street near Camden Avenue)           | I                   | Posted URM                       | ERO                         |
| 200W | Trench          | 216-U-5 (250 ft west of Beloit Avenue at the northwest corner of the 241-WR Vault)                         | I                   |                                  | ERO                         |
| 200W | Trench          | 216-U-6 (500 ft west of Beloit Avenue and 300 ft north of the 221-U Building, west of the 216-U-5 Trench)  | I                   |                                  | ERO                         |

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| Area | Site type         | Location/description  | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-------------------|---|---------------------|----------------------------------|-----------------------------|
| 200W | Crib              | 216-U-8 (450 ft west of Beloit Avenue and 750 ft south of 16th Street)            | I                   |                                  | ERO                         |
| 200W |                   | 241U Zone Ext   | A                   |                                  | TFO                         |
| 200W | Diversion box     | 241-U-151   | A                   |                                  | TFO                         |
| 200W | Diversion box     | 241-U-152   | A                   |                                  | TFO                         |
| 200W | Diversion box     | 241-UX-154<br>(Southeast of 221-U Building)                                       | A                   |                                  | TFO                         |
| 200W | Receiving vault   | 241-WR Vault<br>(Adjacent to northeast end of 221-U Building)                     | I                   |                                  | ERO                         |
| 200W | Unplanned release | UPR-200-W-101<br>(Northeast end of the 221-U Building from Section R-1 to R-9)    | I                   |                                  | TFO                         |
| 200W | Unplanned release | UPR-200-W-111 (South side of the 207-U Retention Basin, within 10 ft of the wall) | I                   |                                  | TFO                         |
| 200W | Unplanned release | UPR-200-W-112 (North side of the 207-U Retention Basin, within 10 ft of the wall) | I                   |                                  | TFO                         |
| 200E |                   | UN-216-E-12   | A                   |                                  | TFO                         |
| 200E |                   | UN-216-E-36   | A                   |                                  | B-Plant                     |
| 200E |                   | UN-216-E-16   | A                   |                                  | Purex                       |
| 200W |                   | UN-216-W-29   | I                   |                                  | ERO                         |
| 200W |                   | UN-216-W-30   | I                   |                                  | ERO                         |
| 200W |                   | UN-216-W-31   | I                   | 1992                             | ERO                         |
| 200W |                   | UN-216-W-33 Pipe Line   |                     |                                  | TFO                         |

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| Area | Site type                      | Location/description   | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|--------------------------------|--|---------------------|----------------------------------|-----------------------------|
| 200W |                                | UN-216-W-35  | I                   |                                  | TFO                         |
| 200W |                                | UN-216-W-37  | I                   |                                  | TFO                         |
| 200E | Unplanned<br>release           | UN-216-E-41  | I                   |                                  | TFO                         |
| 200E |                                | UN-216-E-43  | I                   |                                  | TFO                         |
| 200E |                                | UN-216-E-44  | I                   | 1993                             | TFO                         |
| 200W | Vault                          | 218-WR-A-Vault   | I                   |                                  | ERO                         |
| 200W |                                | 218-W-8 Vault  | I                   |                                  | ERO                         |
| 200W | Crib                           | 216-Z-7 (500 ft east<br>of the 231 Z<br>Building and 500<br>ft. north of 19th<br>Street).                        | I                   | 1991<br>Posted URM               | ERO                         |
| 200W | French Drain                   | 216-Z-8 (300 ft east<br>of the 234-5 Z<br>Building and 350 ft<br>south of 19th<br>street.)                       | I                   | Posted URM                       | ERO                         |
| 200W | Crib                           | 216-Z-12   | I                   |                                  | ERO                         |
| 300  | Test treatment<br>Support fac. | 304 CF   | A                   |                                  | NPO                         |
| 600  | Burial Ground                  | 618-4 (About 22,000<br>ft north of the 300<br>Area)  | I                   |                                  | ERO                         |
| 600  | Burial Ground                  | 618-5 (1/4 mi north<br>of the 300 Area and<br>400 ft north of 316-<br>2 pond)                                    | I                   |                                  | ERO                         |
| 600  | Burial Ground                  | 618-9 (~3/4 mi<br>northwest of the<br>300 Area and<br>1,500 ft southwest<br>of the 618-7 300 W<br>Burial Ground) | I                   | 1991                             | ERO                         |
| 300  | No. Pond                       | 316-2  | I                   |                                  | NPO                         |
| 300  | So. Pond                       | 316-1  | I                   |                                  | NPO                         |
| 300  | Trench                         | 316-5 Process Trench   | I                   |                                  | NPO                         |
| 200E | Tank farm                      | 241-A Tank Farm  | I                   |                                  | TFO                         |

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| Area | Site type | Location/description | Active/<br>inactive | FY<br>Stabilization<br>Completed | Responsible<br>organization |
|------|-----------|----------------------|---------------------|----------------------------------|-----------------------------|
| 200E | Tank farm | 241-AN Tank Farm     | A                   |                                  | TFO                         |
| 200E | Tank farm | 241-AP- Tank farm    | A                   |                                  | TFO                         |
| 200E | Tank farm | 241-AW Tank Farm     | A                   |                                  | TFO                         |
| 200E | Tank farm | 241-AX Tank Farm     | I                   |                                  | TFO                         |
| 200E | Tank farm | 241-AY Tank Farm     | A                   |                                  | TFO                         |
| 200E | Tank farm | 241-AZ Tank Farm     | A                   |                                  | TFO                         |
| 200E | Tank farm | 241-B Tank Farm      | I                   |                                  | TFO                         |
| 200E | Tank farm | 241-BX Tank Farm     | I                   |                                  | TFO                         |
| 200E | Tank farm | 241-BY Tank Farm     | I                   |                                  | TFO                         |
| 200E | Tank farm | 241-C Tank Farm      | I                   |                                  | TFO                         |
| 200W | Tank farm | 241-S Tank Farm      | I                   |                                  | TFO                         |
| 200W | Tank farm | 241-SX Tank Farm     | I                   |                                  | TFO                         |
| 200W | Tank farm | 241-SY Tank Farm     | I                   |                                  | TFO                         |
| 200W | Tank farm | 241-T Tank Farm      | I                   |                                  | TFO                         |
| 200W | Tank farm | 241-TX Tank Farm     | I                   |                                  | TFO                         |
| 200W | Tank farm | 241-TY Tank Farm     | I                   |                                  | TFO                         |
| 200W | Tank farm | 241-U Tank Farm      | A                   |                                  | TFO                         |

- DB = drainage basin
- ERO = Environmental Restoration Operations
- FY = fiscal year
- LAB = laboratory
- LSP = long-term storage platform
- NPO = N-Plant Operations
- PFP = Plutonium Finishing Plant
- PUREX = Plutonium Uranium Extraction (Plant)
- REDOX = Reduction Oxidation
- SWM = Solid Waste Management
- TFO = Tank Farm Operations
- URM = Under Ground Radioactive Material

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**Appendix B**

**Work Elements Site Rankings**

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## APPENDIX B

## WORK ELEMENTS SITE RANKINGS

From the list of contaminated ground sites identified in appendix A of this document, one hundred and five (105) were identified as having sufficient information to allow for clean up ranking using the criteria established in section 4.3 of this document. Within these 105 general sites there are one hundred and forty (140) tanks and unplanned release sites associated with tank farm facilities that are not ranked separately. Instead, the entire tank farm was ranked as a unit i.e. 241-T (including all of its tanks and related unplanned releases). The following pages list these 105 sites in order of ranking showing their respective numerical ranking value and what fiscal year the stabilization work was completed.

| Site identification                     | Responsible organization | Ranking | FY stabilization completed |
|---|--------------------------|---------|----------------------------|
| UN-216-E-41 Cross Country Transfer Line | TFO                      | 14      |                            |
| 216-B-8 Crib and Tile Field             | ERO                      | 13      | 1992                       |
| UN-216-E-43                             | TFO                      | 13      |                            |
| UPR-200-E-88 alias UN-216-E-16          | PUREX                    | 12      |                            |
| 244-A Lift Station                      | TFO                      | 12      |                            |
| UN-216-E-36                             | B-Plant                  | 12      |                            |
| 244-UR-Vault                            | TFO                      | 11      |                            |
| 241-U-Tank Farm                         | TFO                      | 11      |                            |
| 241-T-Tank Farm                         | TFO                      | 11      |                            |
| 241-S-Tank Farm                         | TFO                      | 11      |                            |
| 241-SY-Tank Farm                        | TFO                      | 11      |                            |
| 241-B-Tank Farm                         | TFO                      | 11      |                            |
| 241-BY-Tank Farm                        | TFO                      | 11      |                            |
| 241-BX-Tank Farm                        | TFO                      | 11      |                            |
| 241-C-Tank Farm                         | TFO                      | 11      |                            |
| 216-U-1,2 Crib                          | ERO                      | 11      | 1992                       |
| 216-S-7 Crib                            | ERO                      | 11      | 1991                       |
| 216-B-7 A, B Crib                       | ERO                      | 11      | 1992                       |
| 216-A-40-Basin                          | TFO                      | 11      |                            |

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| Site identification             | Responsible organization | Ranking | FY stabilization completed |
|---------------------------------|--------------------------|---------|----------------------------|
| UN-216-E-44                     | TFO                      | 11      | 1993                       |
| 241-A-Tank Farm                 | TFO                      | 10      |                            |
| 241-Ay-Tank Farm                | TFO                      | 10      |                            |
| 241-AZ-Tank Farm                | TFO                      | 10      |                            |
| 241-AX-Tank Farm                | TFO                      | 10      |                            |
| UPR-200-W-114 Alias UN-216-W-4  | ERO                      | 10      |                            |
| UPR-200-W-98 Alias UN-216-W-6   | T-PLANT                  | 10      |                            |
| UPR-200-E-77 Alias UN-216-E-5   | TFO                      | 10      |                            |
| 216-B-9-Crib and Tile Field     | ERO                      | 10      | 1992                       |
| 216-T-14-17-Trenches            | ERO                      | 10      | 1992                       |
| UPR-200-E78 Alias UN-216-E-6    | TFO                      | 10      |                            |
| UN-216-W-33 Pipeline            | TFO                      | 10      |                            |
| UN-216-W-31                     | ERO                      | 1       | 1992                       |
| 216-Z-7 Crib                    | ERO                      | 9       | 1991                       |
| 216-S-1&2 Crib                  | ERO                      | 9       |                            |
| UN-216-W-35                     | TFO                      | 9       |                            |
| 207-U-BASIN                     | TFO                      | 9       |                            |
| 216-T-19 Crib                   | ERO                      | 9       | 1991                       |
| 207-T-BASIN                     | T-PLANT                  | 9       |                            |
| 216-S-8 Trench                  | ERO                      | 9       |                            |
| UPR-200-W-116 alias UN-216-W-26 | ERO                      | 9       |                            |
| 216-B-64-BASIN                  | B-PLANT                  | 9       |                            |
| 216-B-11 a&b Crib               | ERO                      | 9       | 1992                       |
| UPR-200-E-95 alias un-216-E-23  | B PLANT                  | 9       |                            |
| 216-S-13 Crib                   | ERO                      | 8       | 1992                       |
| 216-C-8 FRENCH DRAIN            | ERO                      | 8       | 1991                       |
| 216-T-1-DITCH                   | TFO                      | 8       |                            |
| 216-S-3&15                      | ERO                      | 8       |                            |
| 207-S-BASIN                     | ERO                      | 8       |                            |

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| Site identification             | Responsible organization | Ranking | FY stabilization completed        |
|---------------------------------|--------------------------|---------|-----------------------------------|
| 218-W-9-VAULT                   | ERO                      | 8       | 1991                              |
| 216-A-7 Crib                    | ERO                      | 8       | 1992                              |
| 216-A-1-CRIB                    | ERO                      | 8       | 1992                              |
| 207-A-BASIN                     | TFO                      | 8       |                                   |
| UPR-200-E-88 alias UN-216-E-23  | B-PLANT                  | 8       |                                   |
| 216-T-3 Reverse Well            | ERO                      | 8       |                                   |
| UPR-200-E-101 ALIAS-UN-26-E-30  | TFO                      | 8       |                                   |
| 241-ER-151-DIVERSION BOX        | TFO                      | 8       |                                   |
| UPR-200-W-111 & 112             | TFO                      | 8       |                                   |
| 218-WR-A-VAULT                  | ERO                      | 8       |                                   |
| 218-W-8 VAULT                   | ERO                      | 8       |                                   |
| UPR-200-W-116 alias UN-216-W-26 | ERO                      | 8       |                                   |
| UN-216-W-37                     | TFO                      | 8       |                                   |
| 241-U Zone Ext.                 | TFO                      | 8       |                                   |
| UN-216-E-12                     | TFO                      | 8       |                                   |
| UN-216-E-16                     | Purex                    | 8       |                                   |
| UN-216-W-29                     | ERO                      | 7       |                                   |
| UN-216-W-30                     | ERO                      | 7       |                                   |
| 216-S-21                        | ERO                      | 7       | 1991                              |
| 316-2-NORTH PROCESS POND        | NPO                      | 7       |                                   |
| 316-1-SOUTH PROCESS POND        | NPO                      | 7       |                                   |
| 207-B-BASIN                     | B-PLANT                  | 7       |                                   |
| 107-KW-BASIN                    | ERO                      | 7       |                                   |
| 107-KE-BASIN                    | ERO                      | 7       |                                   |
| 218-E-12-B BURIAL GROUND        | ERO/TFO                  | 7       | 1992<br>ERO Section<br>Stabilized |
| 241-T-Tank Farm                 | TFO                      | 7       |                                   |
| 183-H-SOLAR BASIN               | ERO                      | 6       |                                   |
| 216-T-6                         | ERO                      | 6       |                                   |

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| Site identification   | Responsible organization | Ranking | FY stabilization completed |
|-----------------------|--------------------------|---------|----------------------------|
| 116-K-1 Crib          | ERO                      | 6       | 1992                       |
| 216-U-12              | TFO                      | 6       | 1992                       |
| 216-T-36 Crib         | ERO                      | 6       | 1992                       |
| 216-A-6-CRIB          | ERO                      | 6       | 1993                       |
| 216-A-36-A & B Crib   | TFO                      | 6       |                            |
| 216- A-30 Crib        | TFO                      | 6       | 1991                       |
| 216-T-33 Crib         | ERO                      | 6       | 1992                       |
| 216-A-9 Crib          | ERO                      | 6       |                            |
| 216-S-23 Crib         | ERO                      | 6       |                            |
| 216-C-10 Crib         | ERO                      | 5       | 1992                       |
| 107-H-BASIN           | ERO                      | 5       |                            |
| 107-F-BASIN           | ERO                      | 5       |                            |
| 107-DR-BASIN          | ERO                      | 5       |                            |
| 107-D-BASIN           | ERO                      | 5       |                            |
| 107-C-BASIN           | ERO                      | 5       |                            |
| 107-B BASIN           | ERO                      | 5       |                            |
| 216-B-51 French Drain | ERO                      | 3       | 1992                       |
| 216-S-4-FRENCH DRAIN  | ERO                      | 3       | 1991                       |
| 216-S-9 Crib          | ERO                      | 3       |                            |
| 618-5 Burial Ground   | ERO                      | 3       |                            |
| 618-4-BURIAL GROUND   | ERO                      | 3       |                            |
| 216-Z-12 Crib         | ERO                      | 3       |                            |
| 216-U-6 Trench        | ERO                      | 3       |                            |
| 216-U-5 Trench        | ERO                      | 3       |                            |
| 316-5-PROCESS TRENCH  | NPO                      | 3       |                            |
| 241-AP-TANK FARM      | TFO                      | 3       |                            |

| Site identification | Responsible organization | Ranking | FY stabilization completed |
|---------------------|--------------------------|---------|----------------------------|
| 216-S-20 CRIB       | ERO                      | 3       |                            |
| 241-AN-TANK FARM    | TFO                      | 3       |                            |

ERO = Environmental Restoration Operation

FY = fiscal year

NPO = N-Plant Operations

TBD = To Be Determine

TFO = Tank Farm Operations

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**Appendix C**  
**Area Maps**

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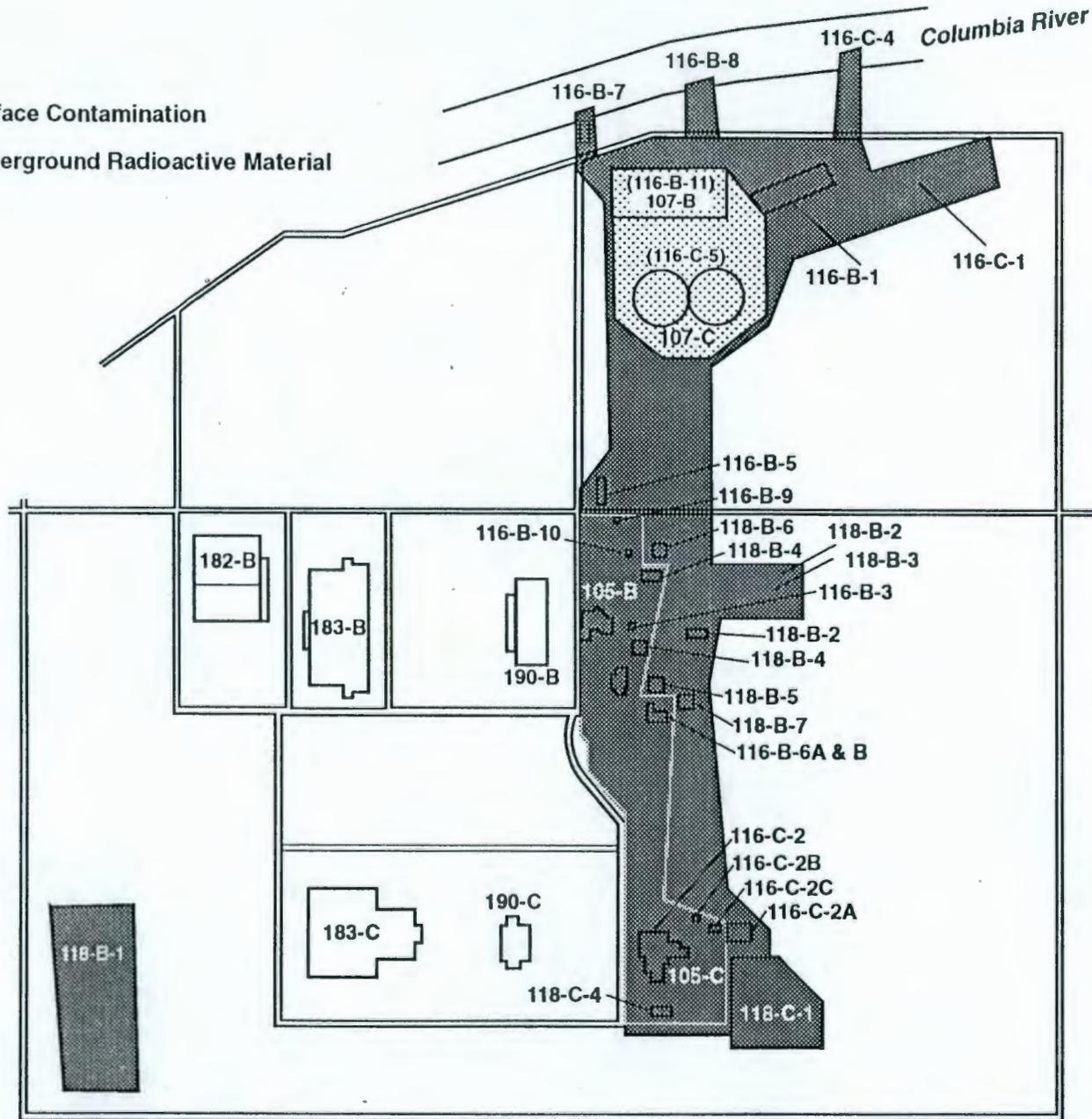
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 Surface Contamination  
 Underground Radioactive Material

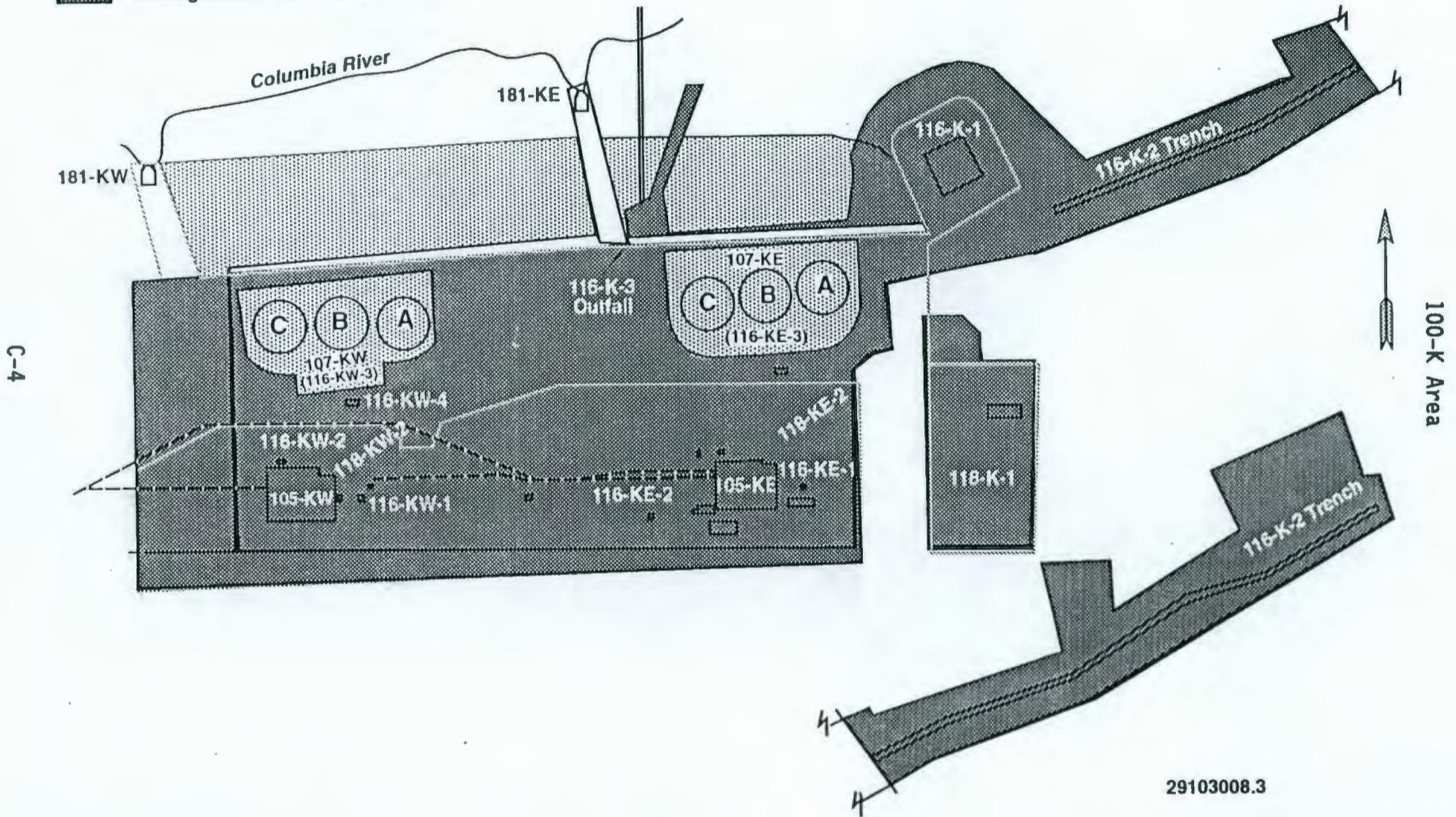


C-3

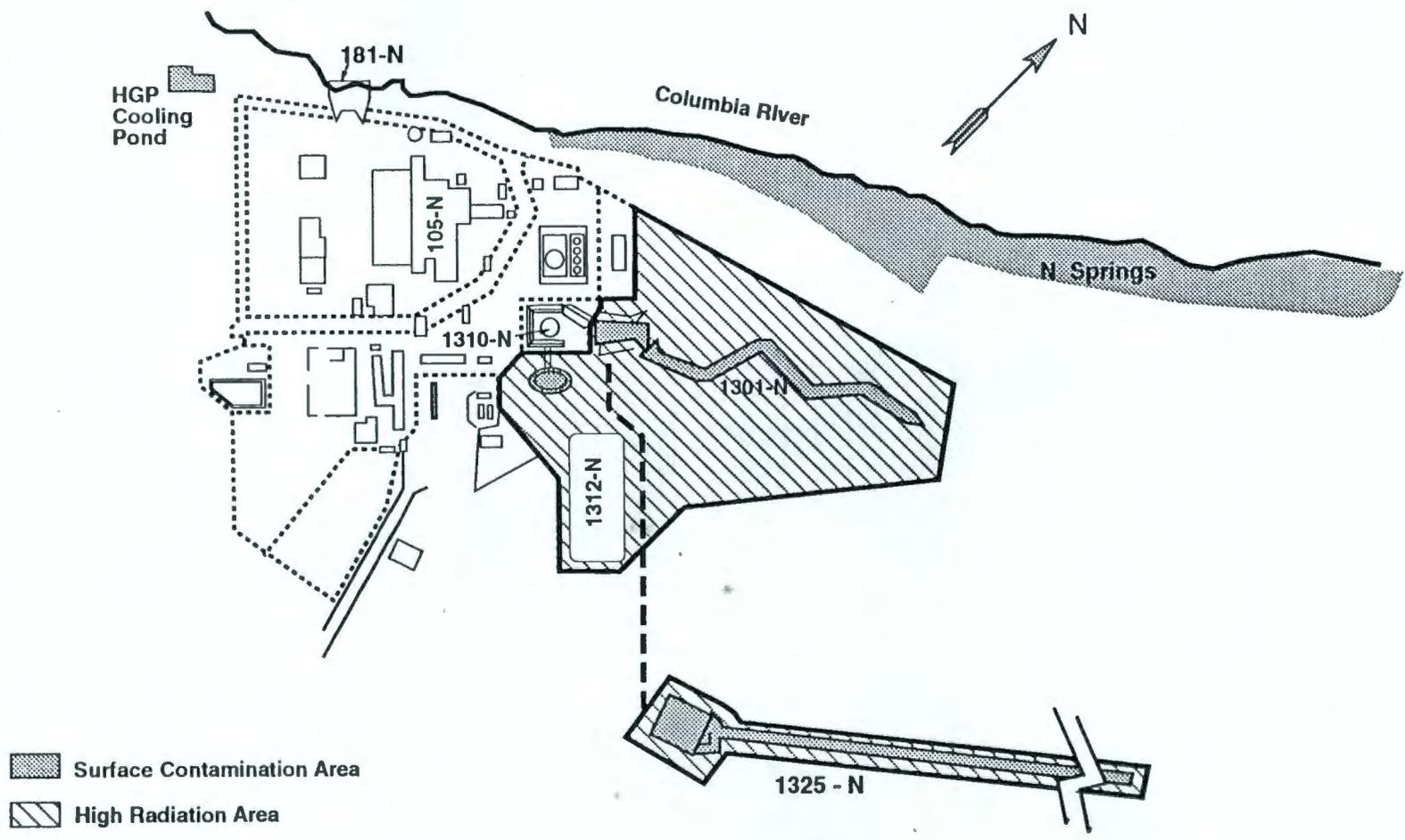
100-B and C Area

WHC-EP-0489-2

-  Surface Contamination
-  Underground Radioactive Material



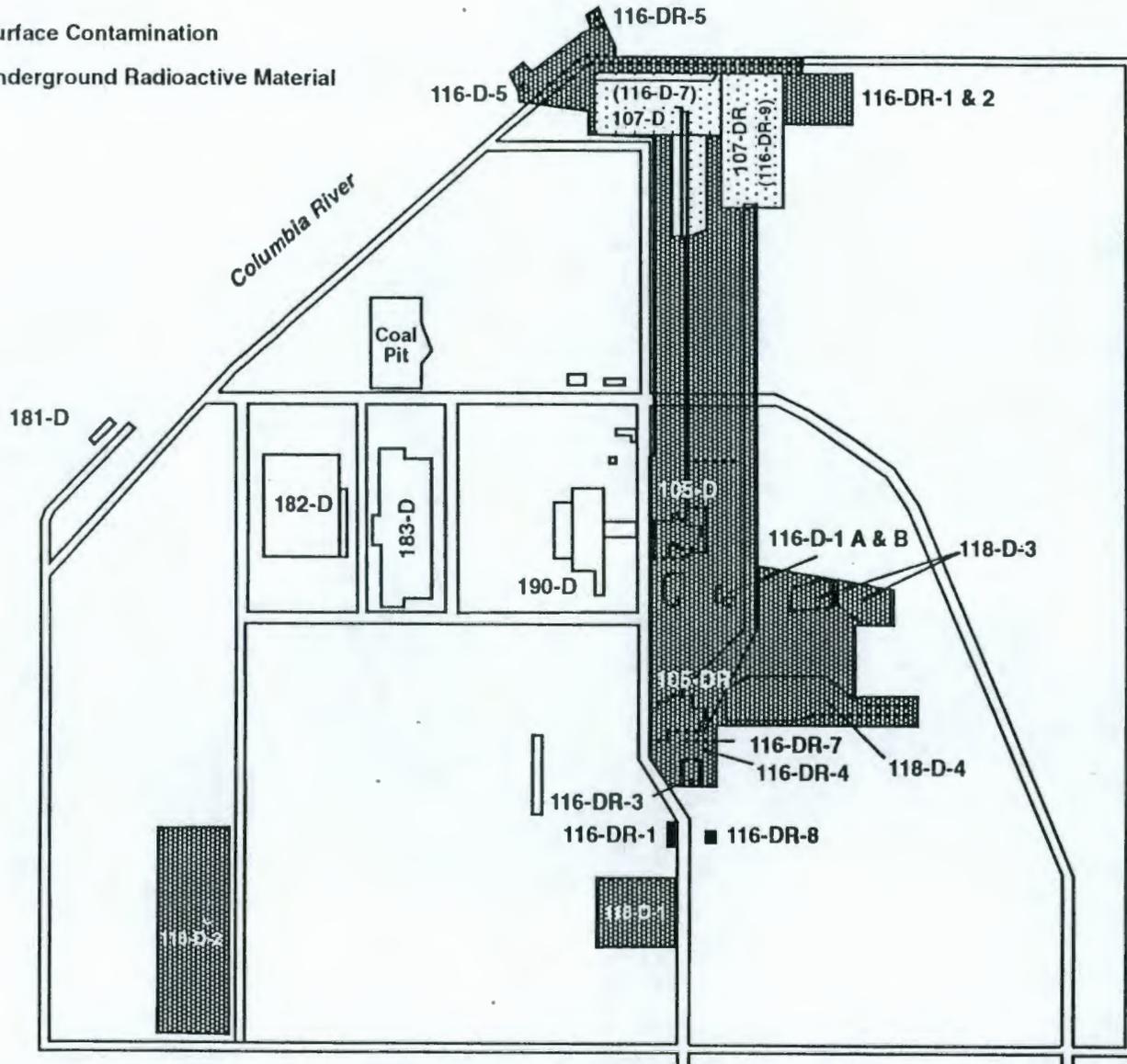
C-5



100-N Reactor Area

WHC-EP-0489-2

-  Surface Contamination
-  Underground Radioactive Material



C-6

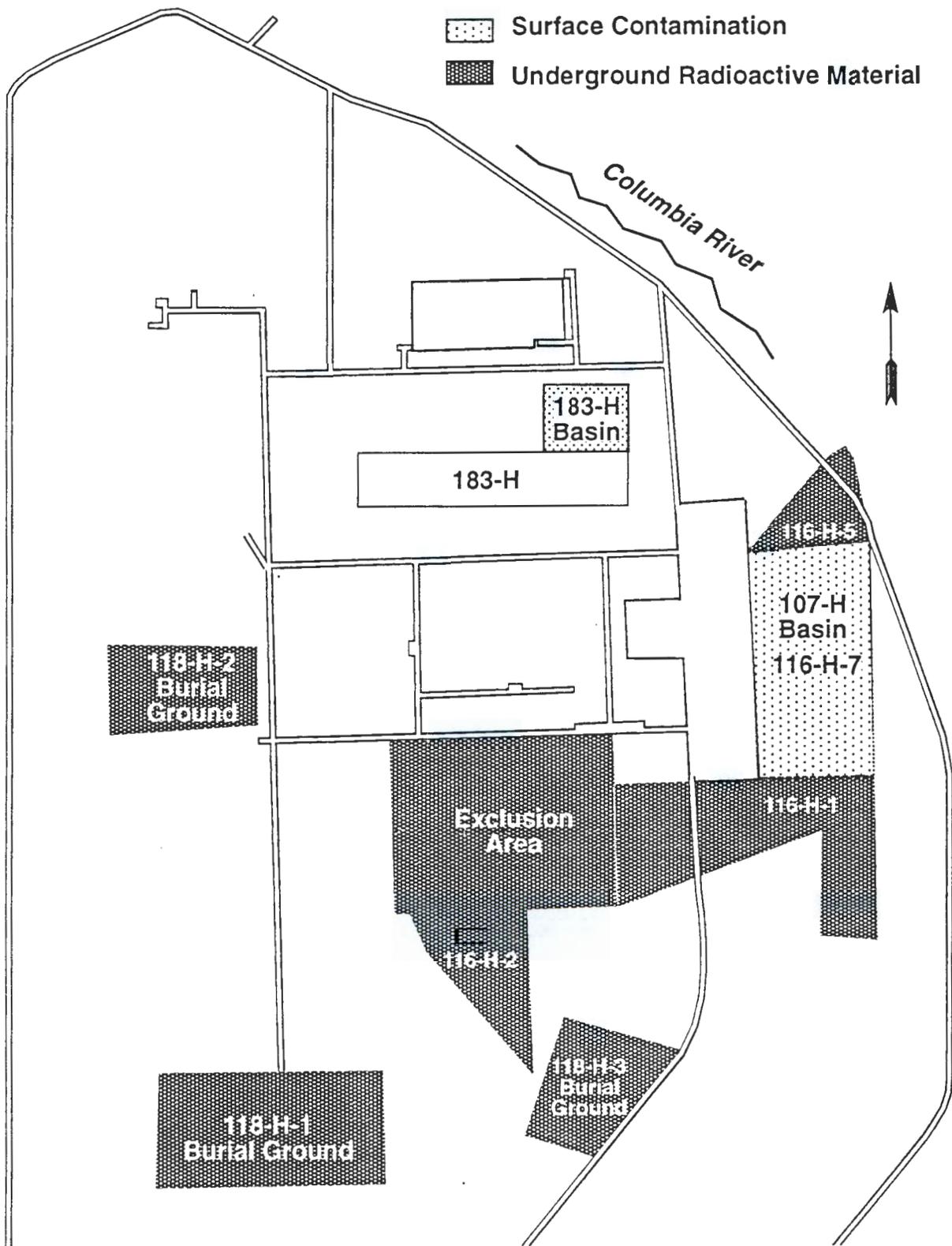
100-D and DR Area

WHC-EP-0489-2

100-H Area

 Surface Contamination

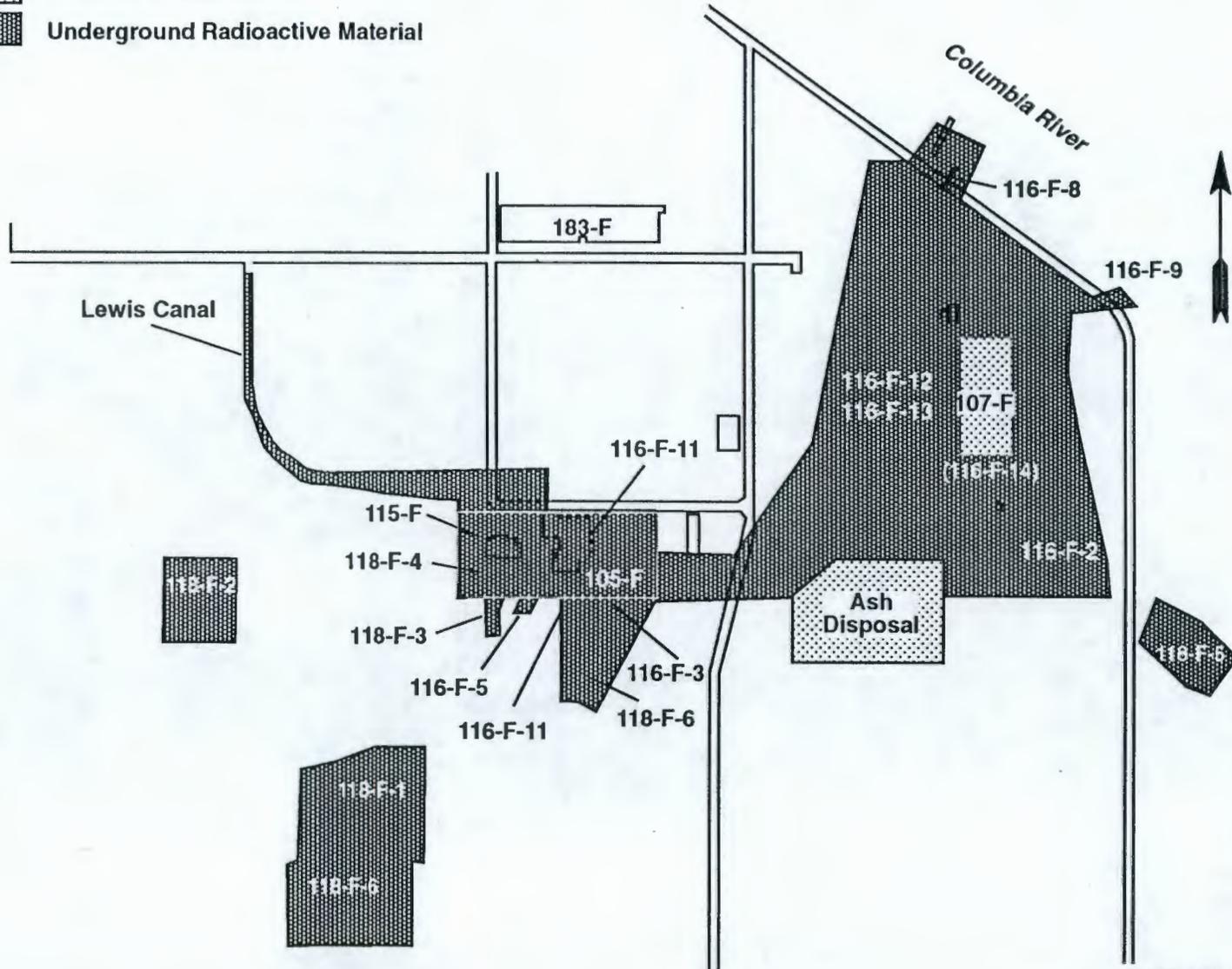
 Underground Radioactive Material



29103008.1

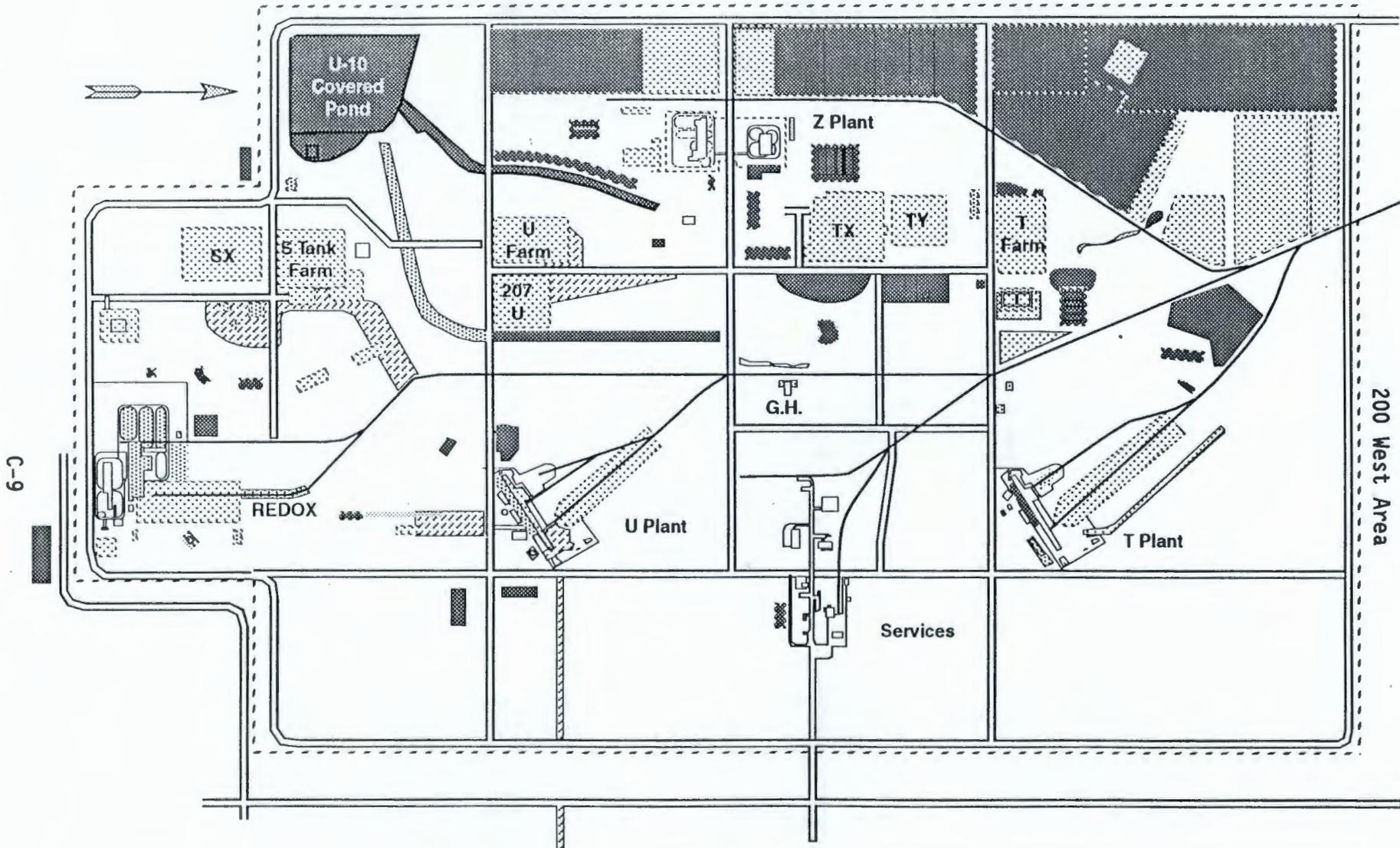
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-  Surface Contamination
-  Underground Radioactive Material



C-8

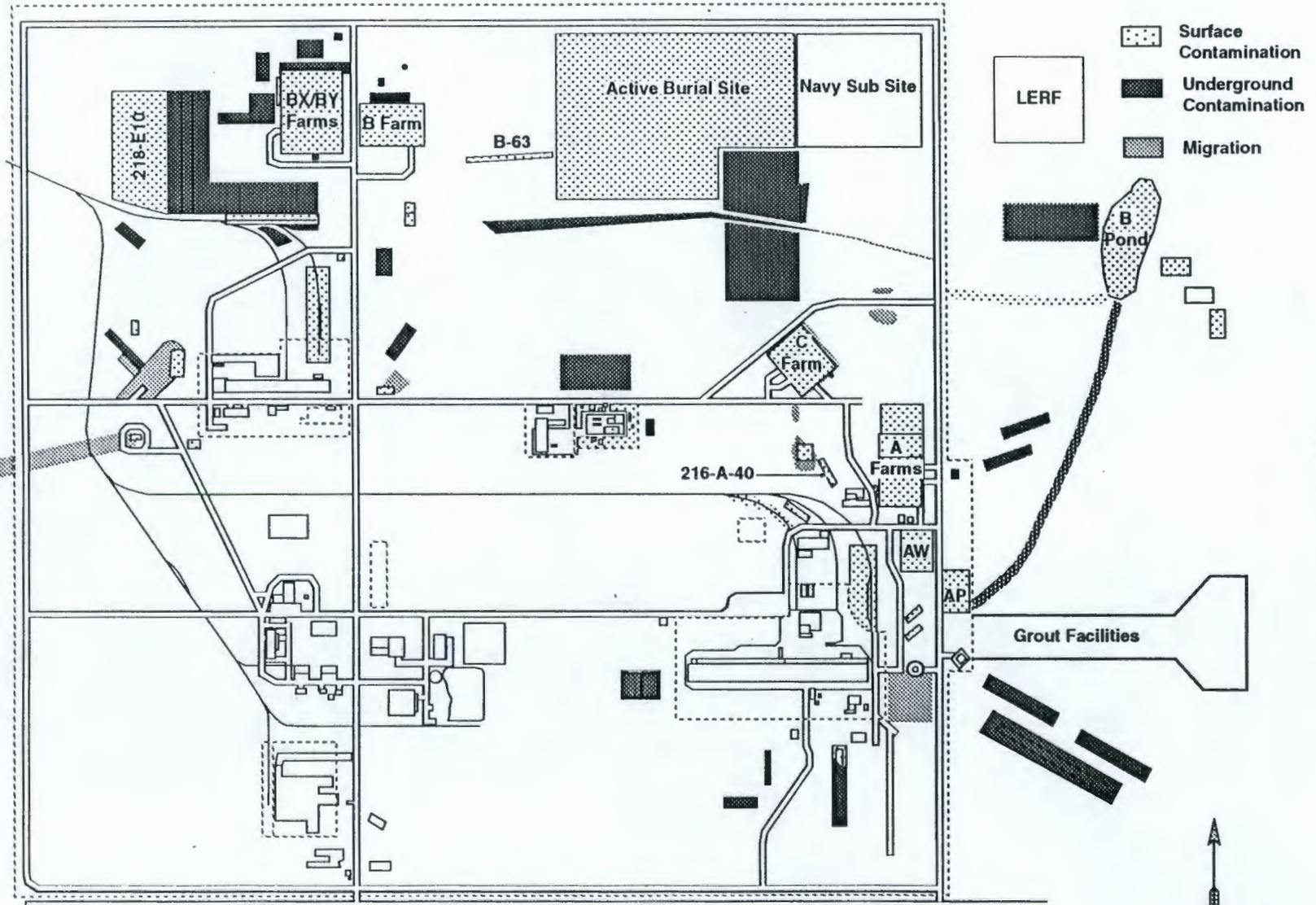
WHC-EP-0489-2  
100-F Area



Surface Contamination    Underground    Migration

200 West Area

MHC-EP-0489-2



-  Surface Contamination
-  Underground Contamination
-  Migration

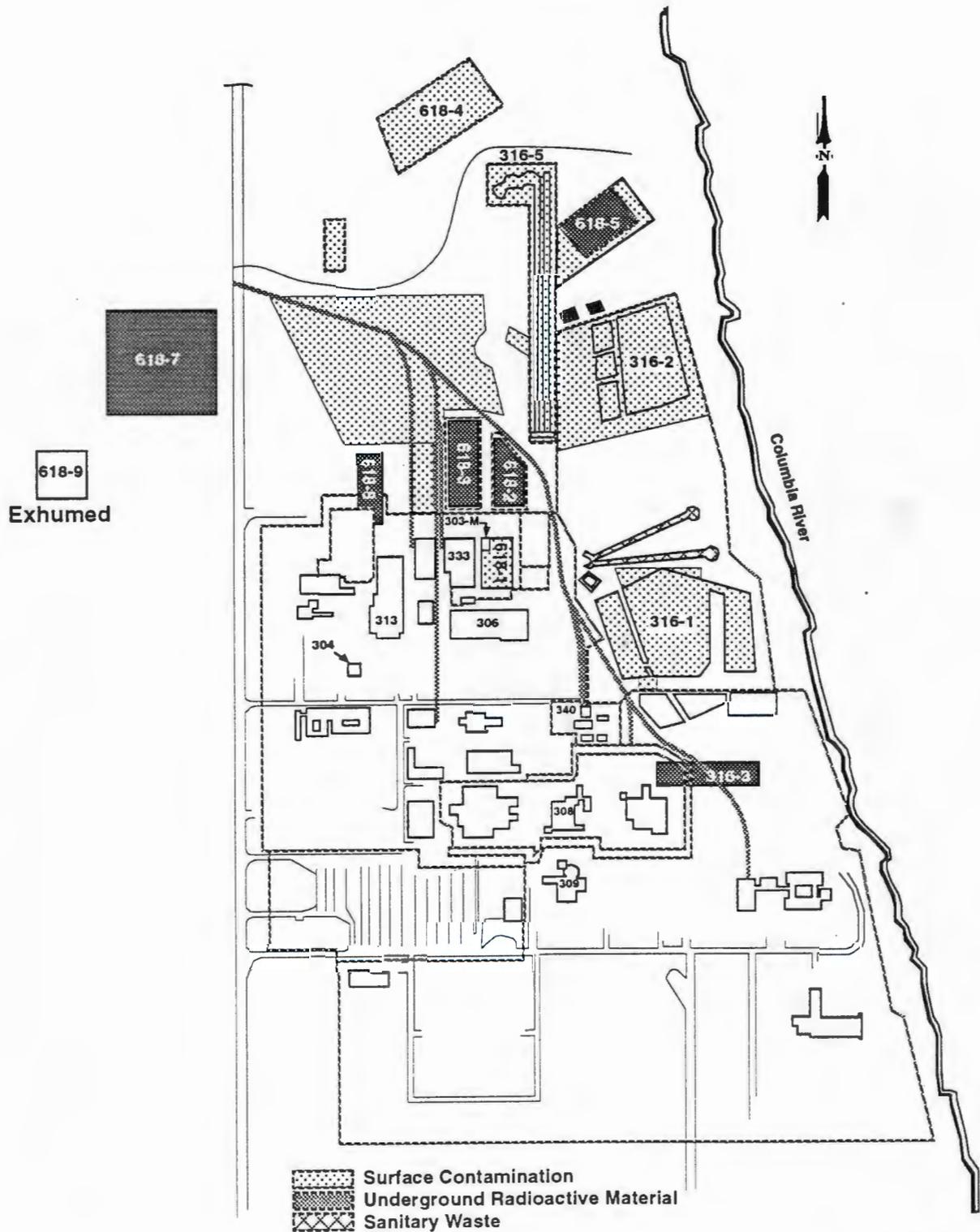
200 East Area

MHC-EP-0489-2

C-10

29103008.7

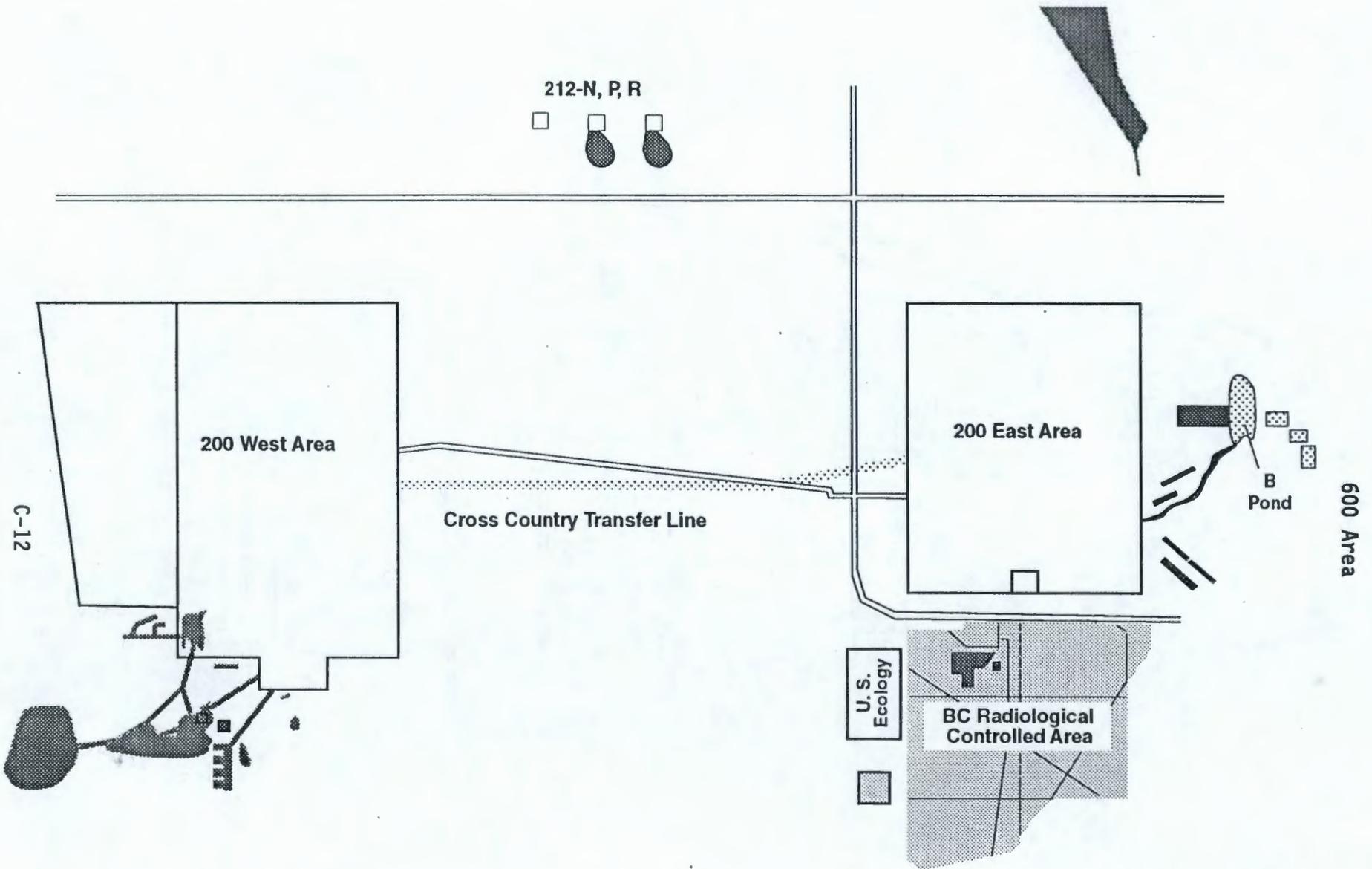
300 Area



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29103008.8

212-N, P, R



C-12

200 West Area

200 East Area

Cross Country Transfer Line

B Pond

600 Area

U.S. Ecology

BC Radiological Controlled Area

Surface Contamination Underground

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