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DEC 28 2011

Mr. D. A. Faulk, Program Manager
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Dear Mr. Faulk:

TRANSMITTAL OF THE 100-F/IU-2/IU-6 AREA – SEGMENT 5 ORPHAN SITES EVALUATION REPORT, OSR-2011-0002, REVISION 0

Attached for your use is the "100-F/IU-2/IU-6 Area – Segment 5 Orphan Sites Evaluation Report," OSR-2011-0002, Revision 0. If you have questions, please contact me or your staff may contact Jamie Zeisloft, of my staff, at (509) 372-0188.

Sincerely,

Mark S. French, Federal Project Director
for the River Corridor Closure Project

AMRC:JHZ

Attachment

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100-F/IU-2/IU-6 Area – Segment 5 Orphan Sites Evaluation Report

Prepared for the U.S. Department of Energy by Washington Closure Hanford

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Title: 100-F/IU-2/IU-6 Area - Segment 5 Orphan Sites Evaluation Report

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The approval signatures on this page indicate that this document has been authorized for information release to the public through appropriate channels. No other forms or signatures are required to document this information release.

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1

1.1 PURPOSE 1-1

1.2 SCOPE 1-3

1.3 KEY TERMS AND DEFINITIONS 1-3

2.0 ORPHAN SITES EVALUATION PROCESS OVERVIEW 2-1

2.1 ORPHAN SITES EVALUATION METHODOLOGY 2-1

2.2 EXCLUSIONS 2-2

2.3 INTEGRATION WITH CERCLA CLEANUP ACTIONS 2-3

2.4 INTEGRATION WITH FEDERAL FACILITY TRANSFER REQUIREMENTS 2-3

2.5 INFORMATION MANAGEMENT 2-5

3.0 SEGMENT 5 OVERVIEW 3-1

4.0 SEGMENT 5 HISTORICAL REVIEW 4-1

4.1 HISTORICAL INFORMATION RESOURCES 4-3

4.1.1 Documents 4-3
4.1.2 Construction Drawings 4-4
4.1.3 Photographs 4-4
4.1.4 Geographical Information System 4-5

4.2 HISTORICAL REVIEW SUMMARY 4-5

4.2.1 General Features 4-5
4.2.2 Pipelines 4-5

5.0 AERIAL DATA COLLECTION AND ANALYSIS 5-1

5.1 DATA COLLECTION 5-1

5.2 DATA EVALUATION 5-1

5.2.1 Prioritized Approach 5-3
5.2.2 Aerial Review Analysis 5-5

6.0 SEGMENT 5 FIELD INVESTIGATION 6-1

6.1 FIELD INVESTIGATION DOCUMENTATION TOOLS AND APPROACH 6-1

6.2 FIELD INVESTIGATION SUMMARY 6-1

6.2.1 Geophysical Survey 6-3
6.2.2 Physical Hazards 6-3
6.2.3 Undocumented Wells 6-3

7.0 SEGMENT 5 EVALUATION RESULTS 7-1

7.1 INTEGRATION OF HISTORICAL REVIEW AND FIELD INVESTIGATION INFORMATION 7-1

7.2 INFORMATION BRIEFINGS 7-1

7.3 FINAL CATEGORIZATION 7-2

7.3.1 Orphan Sites 7-2
7.3.2 Miscellaneous Restoration 7-2
7.3.3 Stewardship Elements 7-3
7.3.4 Waste Information Data System 7-3
7.3.5 No Further Evaluation Features 7-3

8.0 REFERENCES 8-1

APPENDIX

A. MAP ..... A-i

FIGURES

1-1. Location of Segment 5 in the River Corridor. 1-2
1-2. Segment 5 Coverage Area 1-4
2-1. Process for Integration of Orphan Sites Evaluation Results with CERCLA Cleanup Actions. 2-4
3-1. Segment 5 Historical Activity Map 3-2
4-1. Historical Fire Locations Within and in Proximity to Segment 5. 4-2
5-1. Example of Imagery Data (SG5-058). 5-2
5-2. Example of Orthography for Stewardship Feature SG5-111 5-4
5-3. Example of LiDAR for Stewardship Feature SG5-111 (Northwest End). 5-6
5-4. 3D View for Stewardship Feature SG5-111 (Northwest End). 5-6
6-1. Segment 5 Road Survey and Walkdown Area Map. 6-2
6-2. Segment 5 Geophysics. 6-4

TABLES

2-1. Orphan Sites Evaluation Subtask Summary. 2-2
4-1. Segment 5 Historical Review Metrics. 4-3
7-1. Segment 5 Orphan Site Grouping. 7-3
7-2. Segment 5 7-4

ACRONYMS AND ABBREVIATIONS

2D	two-dimensional
3D	three-dimensional
AM	action memorandum
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
DEM	digital elevation model
DOE	U.S. Department of Energy
Ecology	Washington State Department of Ecology
ENW	Energy Northwest
EPA	U.S. Environmental Protection Agency
ESD	explanation of significant differences
GIS	Geographical Information System
GPS	global positioning system
HAMMER	Hazardous Material Management and Emergency Response
LiDAR	Light Detection and Ranging
LIGO	Laser Interferom Gravitational-Wave Observatory
MSA	Mission Support Alliance
NFE	no further evaluation
OSE	orphan sites evaluation
OU	operable unit
RCCC	River Corridor Closure Contract
RL	U.S. Department of Energy, Richland Operations Office
ROD	record of decision
SIS	Stewardship Information System
Tri-Party Agreement	*Hanford Federal Facility Agreement and Consent Order*
WCH	Washington Closure Hanford
WIDS	Waste Information Data System
WPPSS	Washington Public Power Supply System

1.0 INTRODUCTION

The orphan sites evaluation (OSE) process is a systematic approach used to review land parcels and identify potential waste sites in the River Corridor that are not currently listed in existing *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) decision documents (records of decision [RODs] or, in some limited situations, action memoranda [AMs]). Evaluations are performed within the baseline scope of the River Corridor Closure Contract (RCCC) and consist of comprehensive reviews of historical documentation including, but not limited to, documents, drawings, maps, photographs, field investigations, and geophysical surveys. Orphan sites evaluations have or will be conducted within each reactor/operational area in the River Corridor and within the remaining nonoperational areas of the River Corridor geographical area (referred to as the "100-F/IU-2/IU-6 segments") as depicted in Figure 1-1. Evaluation results are reviewed with the U.S. Department of Energy (DOE), Richland Operations Office (RL) and the lead regulatory agency (U.S. Environmental Protection Agency [EPA] or Washington State Department of Ecology [Ecology]), and are subsequently summarized in an OSE report.

New waste sites classified as "accepted" through the TPA-MP-14 process (RL-TPA-90-0001), and similar to those addressed in the existing 100 Area Remaining Sites Interim Action RODs (EPA 1999), qualify for the "plug-in" approach to the confirmatory sampling process and/or remove/treat/dispose cleanup action because remedial action is needed. The EPA 2009 Explanation of Significant Differences (ESD) (EPA 2009) established a process for use of annual fact sheets in lieu of ESDs to document future remediation of waste sites or candidate sites under the Remaining Sites ROD. If new waste sites are "accepted" but are not appropriate for a "plug-in" approach, a separate regulatory decision document will need to be developed and issued to authorize any remedial actions.

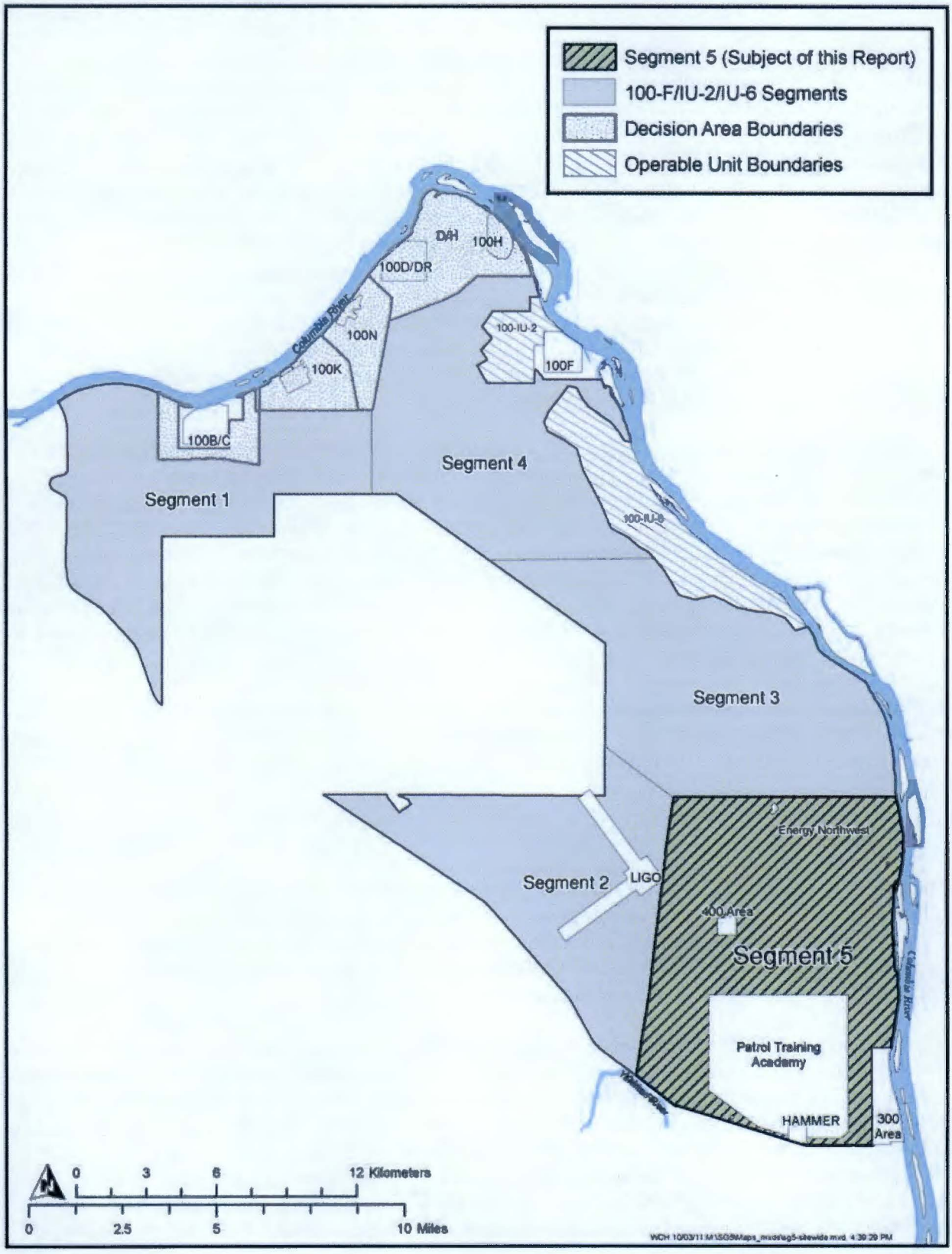
In addition, orphan sites and areas of concern are documented in the Hanford Site Waste Information Data System (WIDS), which is the official repository for documenting the life cycle of waste management units and other areas of concern on the Hanford Site.

1.1 PURPOSE

The purpose of the OSE is to increase confidence that all known waste disposal or releases requiring characterization and cleanup within a given land parcel of the Hanford Site River Corridor have been identified. Information collected through conducting the evaluations also supports elements of the CERCLA 120(h)(4) requirements for review and identification of uncontaminated property at federal facilities.

In 2007, the River Corridor was divided into six geographic areas, commonly referred to as decision areas, to support six final RODs. Each of the areas encompasses reactor areas and their associated operable units (OUs). These include the 100-B/C Area, 100-K Area, 100-D and 100-H Areas, 100-N Area, 100-F/IU-2/IU-6 Area, and 300 Area. The 100-F/IU-2/IU-6 Area was subdivided into five sub-areas, referred to as segments, to facilitate planning and implementation because of the large size of this area. This report summarizes the approach used and results obtained from the OSEs of the 100-F/IU-2/IU-6 Area, Segment 5 (herein referred to as Segment 5). The evaluations were conducted between February and April 2011.

Figure 1-1. Location of Segment 5 in the River Corridor.



1.2 SCOPE

The scope of an OSE includes conducting a historical review and a field investigation, briefings with RL and EPA, and issuance of this summary report. Characterization, waste excavation, removal, disposal, and site closeout are excluded from the OSE scope of work. For orphan sites identified during the evaluation, it is anticipated that subsequent characterization and/or remedial action activities will be performed by Washington Closure Hanford (WCH) following addition of the work scope to the RCCC.

The scope of this report includes only Segment 5 (Figure 1-2). The OSEs and associated summary reports for some segments also integrate portions of adjacent decision areas not addressed in the previous OSEs.

The coverage for the Segment 5 OSE includes an area of approximately 14,178 ha (35,033 ac), including approximately 4,222 ha (10,432 ac) that was excluded from the OSE process. The areas excluded include the Hanford Patrol Training Area Firing Range, Energy Northwest, Hazardous Materials Management and Emergency Response Training Center (HAMMER), and three active electrical substations (HJ Ashe, White Bluffs, and Benton).

1.3 KEY TERMS AND DEFINITIONS

100-F/IU-2/IU-6 Area Segments: The portion of the **River Corridor** that excludes the **reactor/operational areas**. The five segments consist of more than 47,774 ha (118,000 ac).

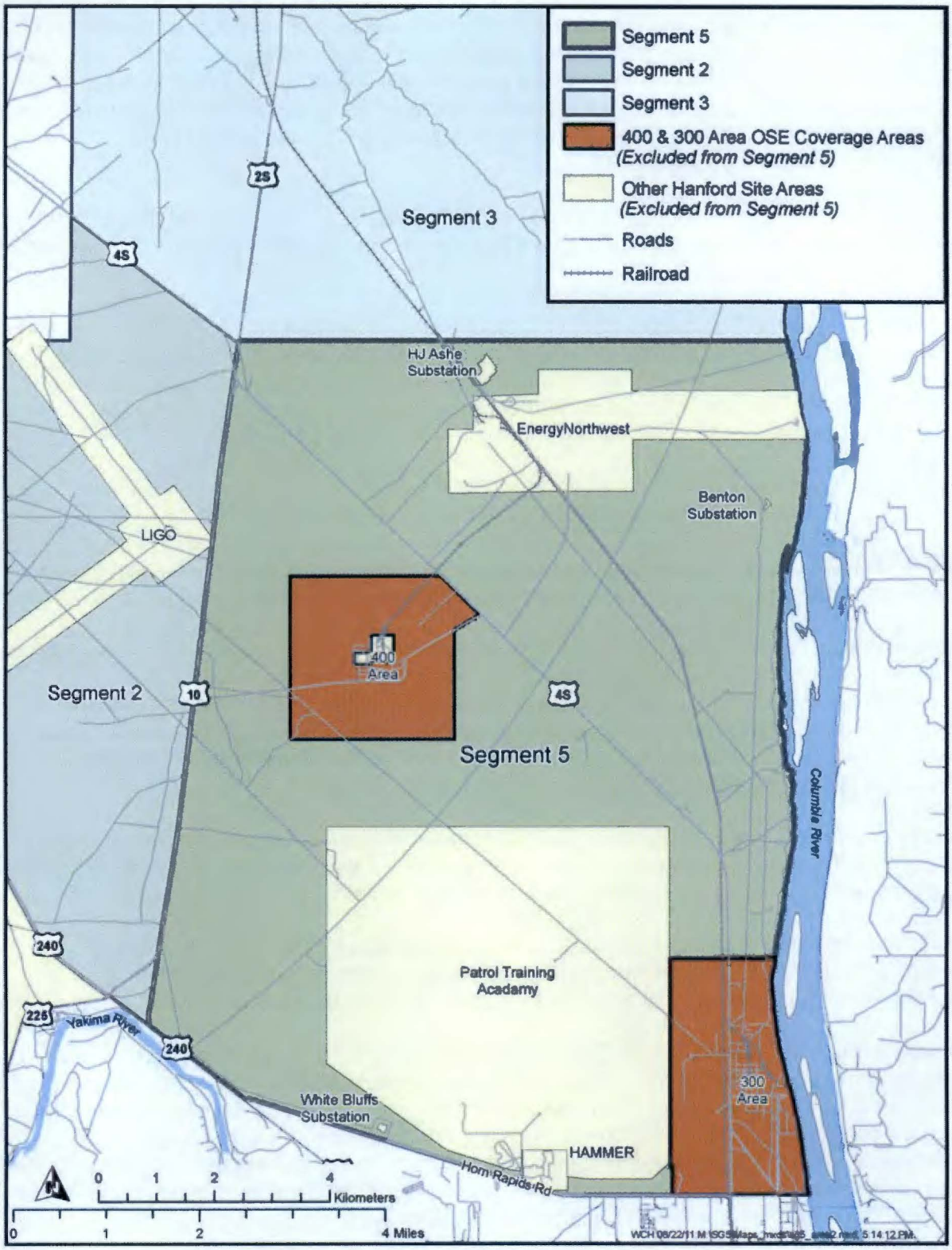
Field Investigation: A subtask of the **OSE** process that involves a systematic visual inspection of manmade surface features, items, or activity areas within a defined area of the **River Corridor** to identify **potential orphan sites** and capture **miscellaneous restoration** items and **stewardship elements** that are observed. The field investigation also includes **geophysical surveys** of selected areas based on field observations or information from the **historical review** subtask.

Geographical Information System (GIS) Database: A spatial database of points, lines, and polygons with descriptive attributes organized by themes (e.g., facilities, waste site boundaries, operable units, electrical lines, sewer lines, roadways, railways, groundwater wells).

Historical Review: A subtask of the **OSE** process that involves review of **historical documents** for building and land use, potential release, and current physical condition to identify **potential orphan sites** and focus areas for **field investigation** activities.

Miscellaneous Restoration: An RCCC scope element that includes removing abandoned railroad lines, abandoned above-grade utilities, surface debris such as concrete, and abandoned fences that are not otherwise addressed by the CERCLA decision documents and that are considered contaminated or potentially contaminated with CERCLA hazardous substances. All below-ground debris and structures are excluded from the miscellaneous restoration scope. Miscellaneous restoration also excludes deminimis volumes of non-CERCLA debris (small, scattered nonhazardous surface debris).

Figure 1-2. Segment 5 Coverage Area.



No Further Evaluation (NFE): A feature that was discovered during the OSE process (e.g., orthophotography analysis) that might be an orphan site but after further investigation (e.g., being field verified) was determined not to be a man-made feature (e.g., boulder or vegetation), or it was wind-blown debris. This definition also includes never constructed historical features and features covered by other non-CERCLA regulatory requirements (e.g., septic tanks, and underground injection control wells).

Orphan Site: Man-made features, items, or activity areas within the **River Corridor** that (1) meet the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al. 1989) **TPA-MP-14** criteria for waste site identification (RL-TPA-90-0001), (2) are not identified for characterization or cleanup within the existing CERCLA decision documents (RODs or AMs), and (3) have been presented to and accepted by RL and EPA through the **OSE** process.

Orphan Sites Evaluation (OSE): A systematic approach involving **historical review** and **field investigation** activities to identify new source unit waste sites within the **River Corridor** that are not identified for characterization or cleanup within the existing CERCLA decision documents (RODs or AMs). Results of each OSE are presented in a summary report including a description of the process and a listing of identified **orphan sites**. Listings of **miscellaneous restoration** and **stewardship** features that are captured during the course of the evaluation are also included in the summary report. Orphan sites evaluations are performed for the **reactor/operational areas** and for the **100-F/IU-2/IU-6 Area segments** of the **River Corridor**.

Physical Hazard: A man-made feature that requires immediate attention (e.g., active subsidence, open wells/cisterns, open basement foundation) based on **field investigation** observations and best professional judgment. When identified, location and description are communicated to the safety project personnel to address.

Potential Orphan Site: Man-made features, items, or activity areas identified within the **River Corridor** during the historical review or field investigation activities that are evaluated because they have the potential to meet the criteria for an **orphan site**.

Reactor/Operational Areas: The primary activity areas within the **River Corridor** that supported the Hanford Manhattan Project and subsequent Hanford Cold War era. An **OSE** is conducted for each identified reactor/operational area including the 100-B/C, 100-D, 100-F, 100-H, 100-K, 100-N, 100-IU-2, 100-IU-6, 300, and 400 Areas. Collectively, the reactor/operational areas consist of approximately 6,880 ha (17,000 ac).

River Corridor: A portion of the Hanford Site that is defined by the RCCC. The River Corridor is more than 56,296 ha (139,000 ac) in size and is bounded on one side by the Columbia River. For the purpose of conducting **OSEs**, the River Corridor is subdivided into **reactor/operational areas** and **100-F/IU-2/IU-6 Area segments.**

Stewardship Elements: Man-made features, items, or activity areas within the **River Corridor** that (1) do not meet the Tri-Party Agreement TPA-MP-14 criteria for waste site identification (RL-TPA-90-0001), (2) are not part of **miscellaneous restoration** scope, and (3) are anticipated to remain after completion of the RCCC. Examples may include, but are not limited to, groundwater wells, building foundations, and physical hazards. Stewardship elements also include unsubstantiated historical research artifacts that were investigated.

Stewardship Information System (SIS): A WCH-relational database consisting of three components: waste sites, facilities, and **OSEs**. The SIS is a primary resource to capture information gathered through the **OSEs**.

TPA-MP-14 ("Maintenance of the Waste Information Data System"): A procedure for documenting the life-cycle of waste management units and other areas of concern on the Hanford Site. The procedure establishes responsibilities and the process required to maintain and update waste site information contained in WIDS.

Waste Information Data System (WIDS): An electronic database of waste site information for the Hanford Site. The database identifies waste management units on the Hanford Site, describes the current status of each unit, and includes other descriptive information.

2.0 ORPHAN SITES EVALUATION PROCESS OVERVIEW

In contrast to reactor/operational areas, the 100-F/IU-2/IU-6 Area segments have limited Hanford Site-related or Manhattan Project-defined areas where past operations occurred such as anti-aircraft batteries and encampments. There are limited documented or organized waste burial practices, limited below-grade engineered systems and underground piping, and no liquid disposal areas (e.g., ponds and retention basins) in the 100-F/IU-2/IU-6 segments. Therefore, it was anticipated that this portion of the River Corridor would have no, or very few, previously unidentified waste disposal areas.

Because of the low potential for previously unidentified waste disposal sites in the 100-F/IU-2/IU-6 segments, the size differential when compared to former operational areas, and the general scarcity of existing data, an evaluation was conducted in 2007 to screen potential technologies and develop a proposed approach/optimized design for conducting an OSE in the segment portion of the River Corridor. This evaluation is documented in WCH-165, *Technology Screening and Optimized Design for Inter-Areas Orphan Site Evaluation.*

Given the unique aspects of the 100-F/IU-2/IU-6 Area segments, the five-step process for conducting OSEs was still deemed appropriate for achieving project objectives for the 100-F/IU-2/IU-6 Area segments. However, because of the relatively sparse operational data anticipated to be available for these areas, a main focus of the OSE conducted in the 100-F/IU-2/IU-6 segments would be to identify "activity areas" that are indicative of potential past disturbance and may be associated with past undocumented Hanford Site operational activities.

2.1 ORPHAN SITES EVALUATION METHODOLOGY

This section presents a summary of standard OSE work breakdown structure and deliverables. For the purpose of executing the work scope, each OSE has been organized into the following subtasks:

- Historical review
- Field investigation
- Gap analysis
- Integration
- Summary report.

The general scope of each subtask as it applies to the 100-F/IU-2/IU-6 Area OSEs performed for each of the 100-F/IU-2/IU-6 segments are summarized in Table 2-1.

Table 2-1. Orphan Sites Evaluation Subtask Summary.

Subtask	Scope
Historical Review (Sections 4.0 and 5.0)	Review historical information (e.g., documents, photographs, drawings, geophysical surveys) associated with facilities, piping systems, operational processes, and waste sites to identify potential orphan sites and target areas for field investigation. Review 2008 aerial photography and LiDAR data to identify potential areas of interest.
Field Investigation (Section 6.0)	Conduct systematic foot-based land survey of the high potential areas to document potential orphan sites (field-based observation). Conduct field investigation and road surveys to follow up on potential orphan sites identified from historical review, identify miscellaneous restoration items observed, and identify stewardship elements observed. Geophysical surveys also may be conducted in target areas as part of the field investigation.
Gap Analysis	Identify and prioritize any information gaps after completion of historical review and field investigation subtasks. Conduct follow-up in identified areas to address information gaps to the extent possible. This subtask may include supplemental historical review and/or field investigation activities as needed.
Integration (Section 7.0)	Prepare draft lists of and initial grouping of potential orphan sites, miscellaneous restoration items, and stewardship elements. Conduct briefings of evaluation results with WCH field remediation project, RL, and the lead regulator. Establish final list of new orphan sites and complete writeup/database entry for orphan sites, miscellaneous restoration items, and stewardship elements. Complete the Discovery Site Checklists for identified sites.
Summary Report (this report)	Develop a report to summarize results from each orphan site evaluation conducted and issue to RL (RCCC contract deliverable C.2.10).

LiDAR = Light Detection and Ranging
RCCC = River Corridor Closure Contract
RL = U.S. Department of Energy, Richland Operations Office
WCH = Washington Closure Hanford

2.2 EXCLUSIONS

The following exclusions apply to OSEs conducted to support the RCCC.

- Characterization (other than geophysical surveys), waste excavation, removal, disposal, and site closeout are excluded in the OSE scope of work. For orphan sites identified during the evaluation, these activities will be performed following modifications to the RCCC to add the appropriate work scope.

- Known or existing waste sites are excluded from the evaluations. This includes waste sites that are scheduled for characterization or cleanup, waste sites that are undergoing cleanup during evaluation, waste sites where cleanup (i.e., excavation, backfill, and/or revegetation) has been completed prior to evaluation, and waste sites that have been reclassified as no action or rejected. Surface debris located on these known or existing waste sites may be documented as part of this evaluation.

- Islands and the Columbia River (below the ordinary high-water mark) are normally excluded from the evaluations.

- General trash/garbage and small isolated pieces of debris are scattered throughout the Hanford Site and will not be recorded as part of the evaluations.

- Railroad lines and utility poles are excluded from consideration as an orphan site. These items will be addressed by the miscellaneous restoration requirement of the RCCC.

- Active temporary construction (e.g., remedial action construction trailers) is excluded from the evaluations.

- Several areas within the RCCC boundary will be excluded from evaluation under the segment OSE and include the following:

  - Laser Interferom Gravitational-Wave Observatory (LIGO)

  - The HAMMER Training and Education Center and associated Hanford Patrol Training Academy

  - Energy Northwest, Inc. nuclear reactor complex (formerly Washington Public Power Supply System [WPPSS])

  - Other unique land parcels being managed by other government agencies (e.g., sand dunes, White Bluffs Substation).

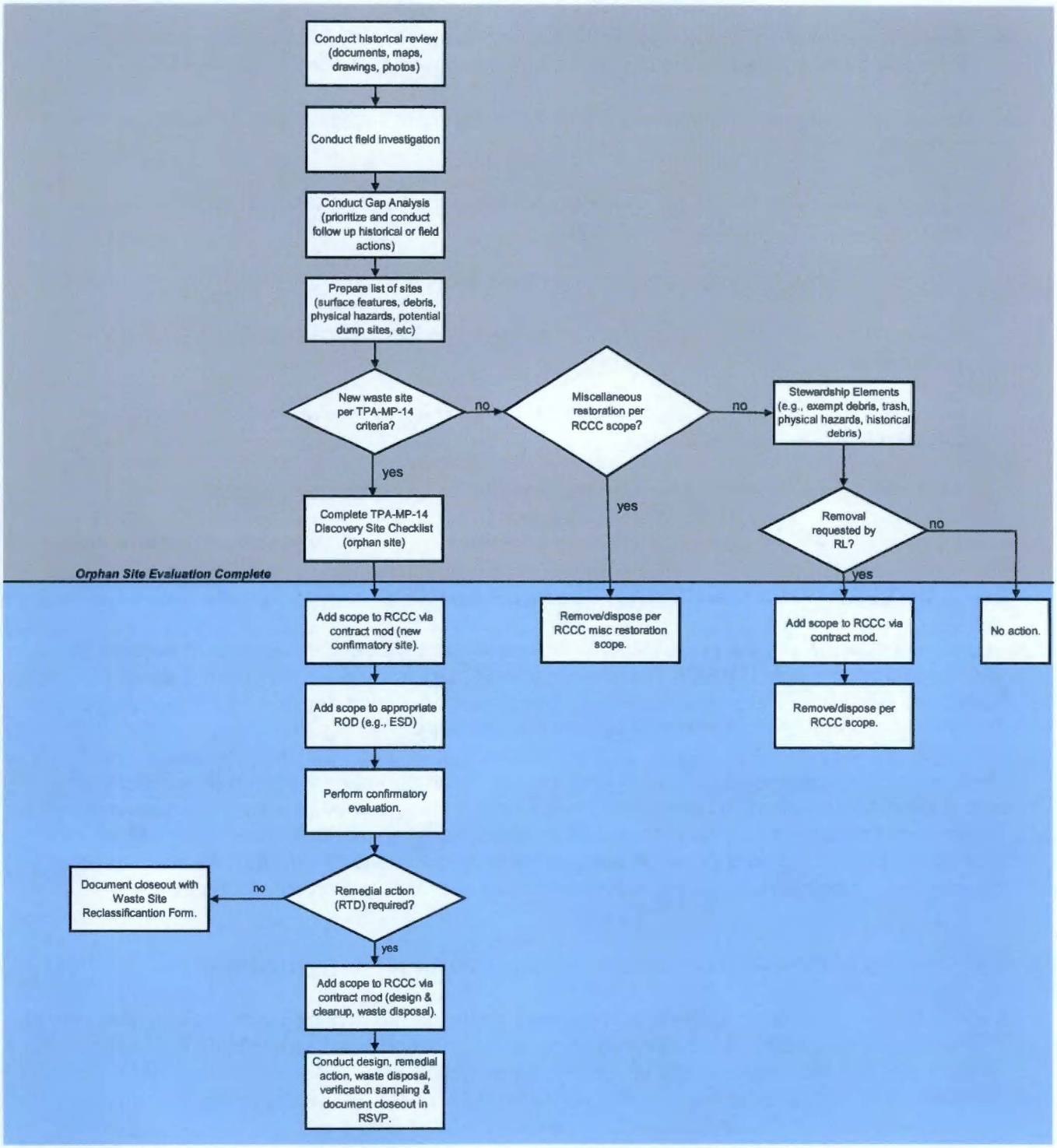
2.3 INTEGRATION WITH CERCLA CLEANUP ACTIONS

Source OU cleanup actions in the River Corridor are currently being performed in accordance with several interim action RODs that provide a regulatory framework, establish cleanup objectives, and identify selected remedies. The process flow and approach for integrating the OSEs results with CERCLA remedial actions in the River Corridor is presented in Figure 2-1. Following completion of the OSE for a given area, it is anticipated that any new waste sites identified by the process will be added to WIDS and to an appropriate interim action ROD for subsequent characterization and determination for additional remedial action. If one or more of the new waste sites do not meet the criteria to be added to an existing interim action ROD, the Tri-Parties (DOE, EPA, and Ecology) will determine an approach to establish the regulatory framework for selection of cleanup actions under an appropriate decision document.

2.4 INTEGRATION WITH FEDERAL FACILITY TRANSFER REQUIREMENTS

Section C.2.11, Activity 11 of the RCCC requires development of a long-term stewardship plan containing a proposed finding of suitability to transfer in accordance with CERCLA 120(h) (WCH-2, *Project Management Plan*). CERCLA Section 120(h)(4) establishes requirements for identifying federal facility property where no hazardous substances and petroleum products or their derivatives were known to have been released or disposed.

Figure 2-1. Process for Integration of Orphan Sites Evaluation Results with CERCLA Cleanup Actions.



CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
ESD = explanation of significant differences
RCCC = River Corridor Closure Contract
RL = U.S. Department of Energy, Richland Operations Office
ROD = record of decision
RSVP = remaining sites verification package
RTD = remove, treat, and dispose

Review of the following types of information associated with current and previous uses of the property are identified in CERCLA Section 120(h)(4):

- A detailed search of federal government records pertaining to the property
- Recorded chain-of-title documents regarding the real property
- Aerial photographs that may reflect prior uses of the real property and that are reasonably obtainable through state or local government agencies
- A visual inspection of the real property and any buildings, structures, equipment, pipe, pipeline, or other improvements on the real property, and a visual inspection of properties immediately adjacent to the real property
- A physical inspection of property adjacent to the real property, to the extent permitted by owners or operators of such property
- Reasonably obtainable federal, state, and local government records of each adjacent facility where there has been a release of any hazardous substance or any petroleum product or its derivatives (e.g., aviation fuel and motor oil), and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product or its derivatives (e.g., aviation fuel and motor oil), on the real property
- Interviews with current or former employees involved in operations on the real property.

Identification also can be based on sampling, if appropriate under the circumstances. For property that is part of a federal facility on the National Priorities List (e.g., the Hanford Site), the identification of uncontaminated properties is not complete until the EPA administrator (or his designee) concurs with the results.

These requirements are consistent with the investigations conducted through the OSE process. Where indicators exist to suggest a potential for release or disposal of hazardous substances, a conservative decision is made to identify a new orphan site. Orphan sites are subsequently investigated and characterized through sampling conducted in accordance with a regulator-approved sample design to determine if remedial actions are warranted.

2.5 INFORMATION MANAGEMENT

The SIS is an Oracle® database created by WCH for the specific purpose of supporting transition from cleanup to long-term stewardship in the River Corridor. Information generated during the process of conducting OSEs is captured within facilities, waste sites, and OSE components of the SIS database. The WCH GIS database contains spatial information (e.g., shape and point data) generated from the evaluations and integrates with the SIS database.

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For sites identified as orphans (new discovery sites), information is also provided to the current WIDS administrator for inclusion into the official Hanford Site WIDS database.

3.0 SEGMENT 5 OVERVIEW

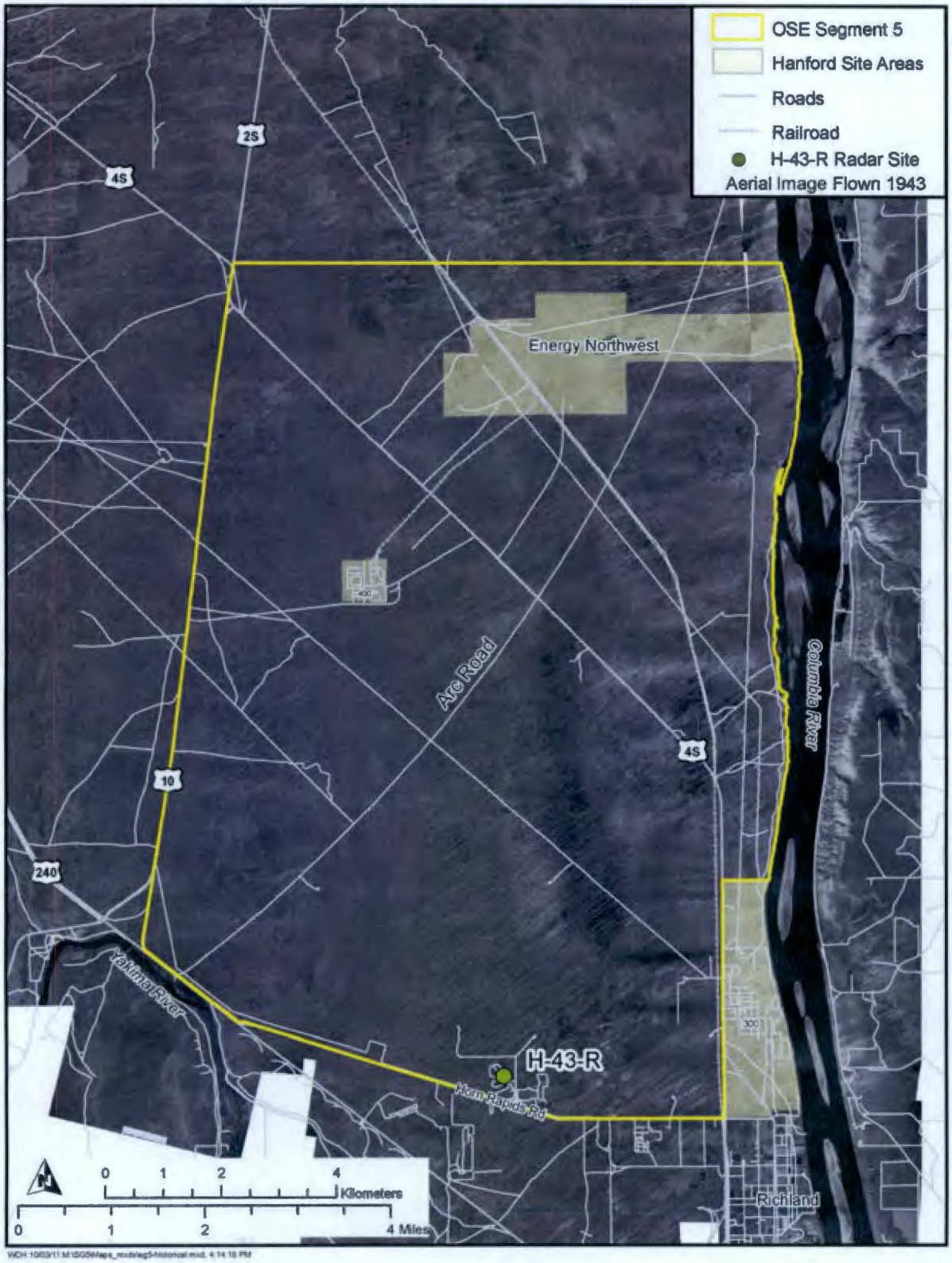
The Segment 5 area, as previously described, is part of the 100-F/IU-2/IU-6 geographical area within the River Corridor. Historical activities that occurred within this area prior to 1943 (pre-Hanford) consisted of farm/homesteads that were mainly confined to the south end of Segment 5 and in the vicinity of the 300 Area. The remaining portion of Segment 5 consists of mainly dune formations. All railroad features in Segment 5 were constructed after 1943 to support Hanford Site operations.

The Segment 5 area included one 1950's era historical military radar site (H-43-R) that was located within the current Hanford Patrol Training Area Firing Range, just north of Horn Rapids Road. The Segment 5 area also included one "Arc" road that supported air diffusion experiments that occurred on the Hanford Site from 1959 through 1974 (PNL-4814). Figure 3-1 shows the location of site H-43-R and the "Arc" road within Segment 5.

Unlike some of the other segments of the 100-F/IU-2/IU-6 Areas, Segment 5 contains a number of facilities associated with known Hanford Site operations. These known operations include the 400 Area (former Fast Flux Test Facility site), Energy Northwest (ENW) nuclear reactor complex, HAMMER and associated Hanford Patrol Training Academy, and two active substations. The 400 Area was previously investigated using the OSE process (OSR-2010-0003), and the remaining areas were excluded from this investigation.

Other previously identified WIDS sites associated with Hanford Site-related activities within the Segment 5 investigation area prior to conducting the OSE included sites such as burial ground sites (618-10 and 618-11 waste sites), debris pits, gravel pits, test burial caissons, demolition sites, soil lysimeters, and a contaminated soil dump (unplanned release). The 618-10 and 618-11 waste sites are associated with the 300-FF-2 OU and are not included as part of this evaluation.

Figure 3-1. Segment 5 Historical Activity Map.



4.0 SEGMENT 5 HISTORICAL REVIEW

A comprehensive review of historical information was conducted to identify potential "activity areas" within Segment 5. Areas and features identified during the historical review process were recorded and investigated during the field verification surveys. Historical research generally focuses on identifying specific items or features that are typically associated with a waste site. The common features associated with a waste site include burn pits, trenches, ditches, pits, spills, ash pits, and disposal areas that potentially contain chemicals and radiological contaminants. Historical reviews focused on features associated with these types of areas.

Historical research was conducted using a prioritized approach similar to the approach previously used for OSEs performed in the reactor/operational areas. The area under investigation was divided into areas of interest based on general historical knowledge of the Hanford Site. High-potential areas were identified by the proximity to operational/reactor areas and were considered as having the greatest potential for containing undocumented waste disposal areas. In addition, high-potential areas were also identified for land adjacent to the Columbia River because of the sensitivity and potential future use of this area. The intermediate-potential areas are identified based on rail and roadway access and include Hanford Site-related features not suspected of containing waste. Examples of intermediate-potential areas included telecommunication lines and power-transmission lines. Low-potential areas are remote areas with little access and dense old-growth vegetation areas. Segment 5 consists primarily of intermediate- and high-potential areas, due to proximity of operational areas and the Columbia River.

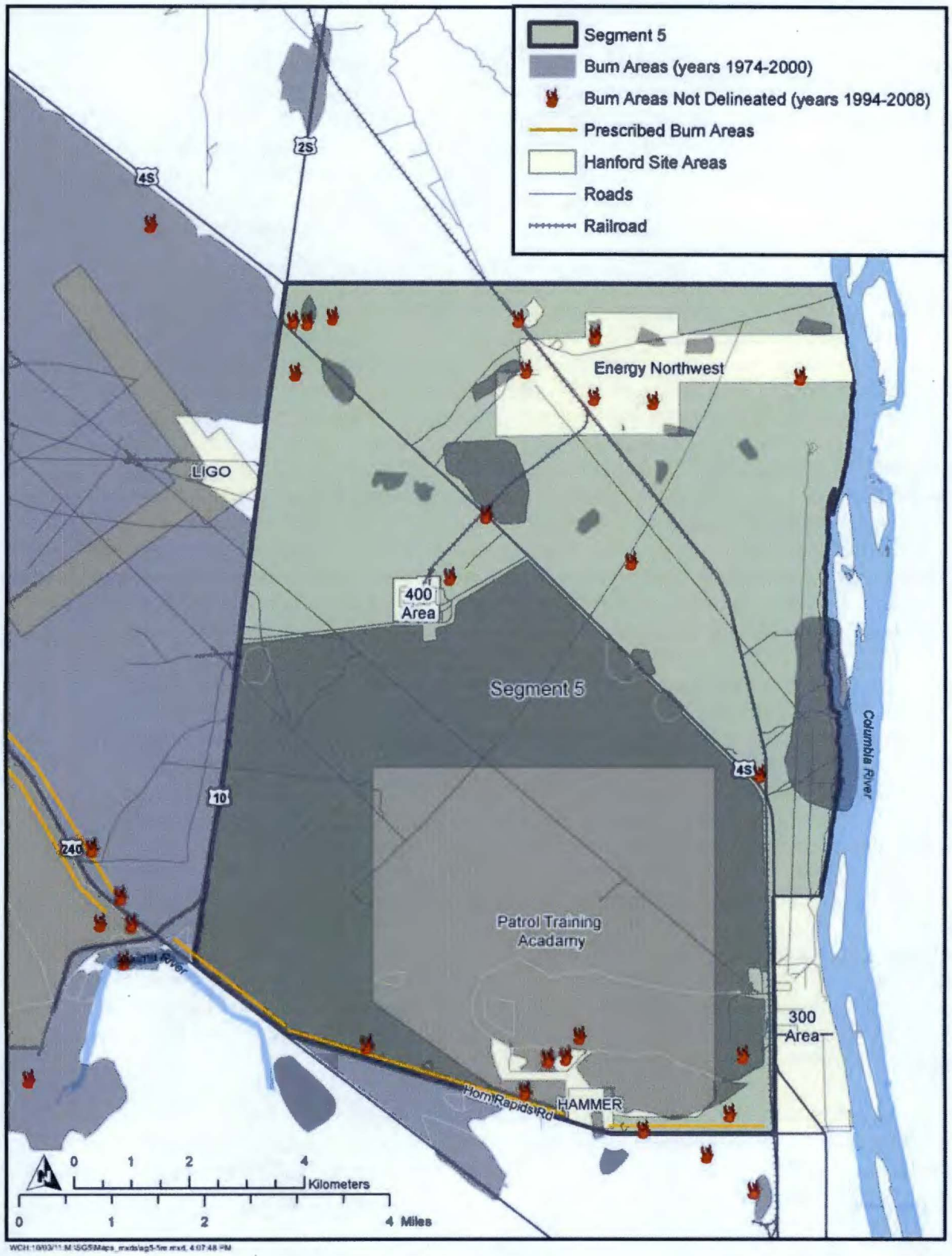
Historical research of the Segment 5 area included keyword database searches of the entire 100-F/IU-2/IU-6 segments for documents, construction drawings, pre-/post-Hanford Site maps, and aerial photographs. In comparison to a reactor area, there are few documents or drawings related to the 100-F/IU-2/IU-6 segments. A concerted effort was conducted to obtain all related pertinent spatial data in any format, for all time periods, from the Hanford Site-related prime contractors for spatial analysis and potential disposition purposes. Drawings, maps, and vertical aerial images were rectified for spatial analysis.

A GIS layer identifying telecommunication line locations was obtained from the Mission Support Alliance (MSA) utilities group. This GIS layer was used to disposition linear ground disturbances within the investigation area. In some cases, the telecommunication GIS line locations (i.e., no action status WIDS site 600-235, lead sheath telecommunication line) and ground disturbance patterns did not match the footprint shown on the GIS and WIDS spatial layers. Geophysics was conducted as needed to help disposition identified linear ground disturbances located during this investigation.

Historical fire locations with associated attributes (e.g., fire origins, fire boundaries, prescribed fire boundaries, and dozer lines) were obtained in GIS format for potential use to disposition some burned and disturbed areas identified within Segment 5. The locations of historical fires are shown in Figure 4-1.

Historical borrow pit locations were obtained from MSA's Central Mapping group for disposition purposes.

Figure 4-1. Historical Fire Locations Within and in Proximity to Segment 5.



Aerial herbicide application locations in GIS spatial format were also obtained from Pacific Northwest National Laboratory to associate with observed areas of stressed vegetation or observed lack of vegetation in other areas to assist in determining whether the herbicide applications may be the cause of the observed disruptions to vegetation. Due to the large extent of the aerial herbicide applications in the Segment 5 area, no spatial analysis was conducted.

4.1 HISTORICAL INFORMATION RESOURCES

Information obtained and used in the historical review includes, but is not limited to, the following types of resources:

- Maps
- Construction and operations drawings
- Technical and operations documents
- Construction and operations photographs
- Aerial photographs
- Geophysical survey results
- Incident reports
- Weekly and monthly summary reports
- Historic property inventory forms.

A summary of the key metrics associated with the Segment 5 historical review is presented in Table 4-1. Specific information associated with the review approach for selected resource types is summarized in the following subsections.

Table 4-1. Segment 5 Historical Review Metrics.

Resource Type	Item	Approximate Quantity
Documents	Documents (e.g., technical reports) retrieved from records and screened	1,966
Drawings	Drawings (e.g., construction drawings and maps) collected, reviewed, and indexed	1,455
Photographs	Photographs (e.g., aerial and ground level photographs) obtained and reviewed	252

4.1.1 Documents

Historical documents were located by keyword searches of available databases including the Declassified Document Tracking System, Integrated Document Management System, Declassified Document Retrieval System, Document and Record Tracking System, DOE Reading Room, Universal Content Management, and Records Holding Area (Fixed Records Management). Information from additional databases was accessed through WCH Records and Document Control and Hanford Site Central Files. Search results revealed approximately 1,966 historical documents for the 100-F/IU-2/IU-6 Area segments. These documents were reviewed for use in the Segment 5 analysis; however, none of the documents contained any information indicating potential discovery sites in Segment 5.

Review of the aerial radiological survey data was also conducted to identity potential localized radiological anomalies within Segment 5. Aerial gamma surveys of the Hanford Site have been performed on several occasions since the late 1970s. The initial survey was conducted using a helicopter platform in the spring of 1978 with sodium iodide detectors. This survey is described in detail in EGG-1183-1828, *An Aerial Radiological Survey of the U.S. Department of Energy's Hanford Site*. Since then there have been two additional airborne surveys that were conducted in 1988 (EGG-10617-1062, *An Aerial Radiological Survey of the Hanford Site and Surrounding Area*) and 1996 (DOE-0335, *An Aerial Radiological Survey of the Hanford Reservation, Richland, Washington, Date of Survey: February 29 to March 21, 1996*). Based on a review, the data were deemed adequate, and no radiological sites were identified within the Segment 5 evaluation boundaries. There were five areas within the Segment 5 boundaries that were identified in the 1996 airborne survey data, all with the lowest detection value of <0.07uCi/m2.

Historic property inventory forms for the 600 Area were reviewed to determine if related properties were within the Segment 5 area. The properties were also reviewed to determine if any were of cultural significance for eligibility for inclusion in the National Register of Historic Places. The only feature in Segment 5 to be eligible for inclusion is the Hanford Dispersion Test Facility, of which a single "Arc" support road passes through this segment. The Hanford Site Plant Railroad, which runs through Segment 5, was identified as a historically significant feature from the previously discussed reviews.

Washington Closure Hanford excavation permits were also evaluated based on coordinates to determine if any of the disturbed areas within Segment 5 could be dispositioned. No features were identified that were dispositioned using the excavation permit reviews.

4.1.2 Construction Drawings

Construction drawings of interest were identified by reference in reviewed documents and database searches (e.g., Crystal®). Approximately 1,455 drawings were identified and screened for relevant information and drawings with pertinent information were geo-spatially rectified. A number of Hanford Site-related security facilities were identified and added to the SIS database, and one of the drawings contained information indicating a potential new discovery site in Segment 5.

4.1.3 Photographs

For this evaluation, 1943 vertical black-and-white aerial imagery that covered the entire investigation area was located. The individual photograph frames were scanned at 1,200 dpi resolution, placed in a mosaic, and then ortho-rectified using mapping software. The resulting imagery could then be included in the mapping project and used for analysis of identifying features. The 1943 aerials provided a pre-Hanford Site baseline of ground conditions prior to Hanford operations. Vertical aerial photographs, dated 1948, 1964, and 1968, were also georeferenced and or used in spatial analysis of Segment 5. A total of 252 photographs were obtained and reviewed.

® Crystal is a registered trademark of Crystal Certified Solutions, Inc.

4.1.4 Geographical Information System

Information from the review of construction drawings, maps, and aerial imagery was rectified and added to the GIS spatial database, as needed. Rectified documents were then used to conduct a spatial analysis to determine if the mapped features of interest were documented sites previously identified in the existing GIS mapping layer or newly identified features.

4.2 HISTORICAL REVIEW SUMMARY

The various resource types identified in Section 4.1 were used to review information related to potential infrastructure construction, operations, and releases within Segment 5. Information suggesting the presence of a potential discovery site was reviewed against the existing baseline of waste sites. For areas of interest or features not previously identified as a waste site, further investigation was conducted to support a final determination on classification or disposition of the feature. In some cases additional investigation included field verification and/or geophysical surveys as part of the field investigation summarized in Section 6.0. Integration of information from the historical review and field investigation activities is reflected in the results presented in Section 7.1.

4.2.1 General Features

Historical research yielded no potential discovery sites.

4.2.2 Pipelines

Construction drawings were reviewed for pipelines that had not been previously mapped within Segment 5. No features were identified during this process. The underground utilities for direct-buried fiber optics and natural gas lines for Segment 5 were obtained from MSA's Central Mapping group MapMax database.

5.0 AERIAL DATA COLLECTION AND ANALYSIS

Four-band (red, green, blue, and near-infrared) orthophotography imagery and Light Detection and Ranging (LiDAR) topography data were collected in April 2008 to support the investigation of the 100-F/IU-2/IU-6 segments for the presence of orphan sites, stewardship elements, and miscellaneous restoration features. The data were collected for approximately 57,468 ha (142,000 ac) of the River Corridor area at the Hanford Site in the early spring when foliage and undergrowth obscuring the ground surface was at a minimum. The use of LiDAR technology and orthophotography imagery was based on the evaluation approach documented in WCH-165. Both the orthophotography and LiDAR surveys were supported by on-board airborne global positioning system (GPS) and inertial measurement unit observations. Ground-targeted control points were also used to further control the scanned digital aerial photography and to serve as true checkpoints for both the LiDAR survey and the final digital orthophotography.

5.1 DATA COLLECTION

The orthophotography imagery data were collected using an Intergraph® DMC® digital camera mounted in a twin-engine Piper Navajo aircraft. The aircraft flew at an altitude of 610 m (2,000 ft) and collected data for 76 flight lines over a 3-day period. The nominal photograph scale allowed for the generation of digital orthophotography at a ground sampling distance of 7.5 cm (3 in.). The post-processed orthophotography resulted in 1,275 digital mosaic-format orthorectified photographic 750- by 750-m (2,460.75- by 2,460.75-ft) tiles.

The LiDAR data were collected using an Optech Airborne Laser Terrain Mapper sensor mounted in a single-engine Cessna aircraft. This technology utilizes lasers to map out ground surface elevations. The aircraft flew at an altitude of 803 m (2,634 ft) and collected data for 178 flight lines over a 7-day period. The data were converted to a digital elevation model (DEM) that has a nominal ground resolution of 0.4 m (1.31 ft). The airborne LiDAR data were collected at sufficient density and accuracy to allow for the generation of 0.5-m (1.64-ft) posting DEM grids and 0.3-m (0.98-ft) contours. Post-processed LiDAR data were reduced to 1,275 tiles measuring 750 by 750 m (2,460.75 by 2,460.75 ft). The data set included DEMs for all points, first return, ground, nonground, and contours.

5.2 DATA EVALUATION

The OSE process of the imagery and LiDAR surveys (aerial reviews) are conducted using the same criteria and systematic approach as the land-based walkdown surveys. The objectives, processes, and deliverables are consistent with those conducted for the reactor/operational area evaluations.

® Intergraph and DMC are registered trademarks of Intergraph Corporation.

For the aerial review evaluation, 30- by 30-m (98.43- by 98.43-ft) grid areas were developed for the Segment 5 OSE. Each grid area is evaluated using the aerial photography as shown in Figure 5-1 (feature SG5-058 depicted) and at a more global resolution for potentially larger features. Field verification determined that feature SG5-058 was a mammal burrow; therefore, it was classified as "No Further Evaluation." Man-made materials and features or disturbed areas were identified and recorded into a GIS database.

Figure 5-1. Example of Imagery Data (SG5-058).

Features were recorded and initially classified as Orphan Site, Stewardship, or Miscellaneous Restoration. Selected features were then field verified, and comparison photographs were collected.

Linear features, if collected within Segment 5 boundaries, were identified with points representing the beginning and end points of the feature; both points were identified with the same OSE identification. Feature SG5-111 is an example of an identified linear (Figure 5-2).

5.2.1 Prioritized Approach

A prioritized survey and validation approach was developed for Segment 5, classifying areas into three categories based on potential for site or release occurrence that included higher, intermediate, and low probability. The probability areas were defined spatially by proximity to reactor operation or Hanford Site ancillary facilities, access gateways, and remote limited access or topographic limited areas. Access gateways consisted of transportation routes including roads, railroads, and easements (telecommunications, power, export waterline). Hanford Site ancillary facilities not directly related to the reactor operation consisted of guard houses, military bases or posts, export water structures, railroad-related operations, and other easement-related features (e.g., power transmission lines, poles, towers).

Aerial reviews were conducted in both two-dimension (2D) and three-dimension (3D) in all of the probability areas. Field verification of suspect features identified during the aerial reviews and road surveys of all accessible areas were also conducted. A prioritized approach was utilized for field verification of the collected features and for quality control and validation of the aerial review and road survey processes. Road surveys and field verification of suspect features were conducted after the aerial reviews were finished for a given area. The road surveys and field verification process allowed for the assessment of the aerial data feature collection process and completeness. The road surveys were conducted at 8 km/hr (5 mi/hr), and any additional features identified were recorded and added to the database. During the road survey process, selected features from the aerial reviews were field verified. Not all roads were surveyed due to general accessibility issues. Roads that were surveyed are discussed in Section 6.0. During the field verification process, any additional features identified were also recorded. This approach verified and added additional confidence that no significant features were missed during the aerial reviews.

The areas defined as low-potential probability consist of limited access, old mature sagebrush/vegetation, remoteness, and topographic-limiting areas. Low-probability areas were analyzed in 2D and 3D and selectively field verified. The 2D surveys were conducted utilizing the OSE field walkdown team as the primary aerial reviewers. The 3D LiDAR inspection was conducted separately from the 2D survey using Global Mapper software and served two purposes: (1) an independent quality assurance/quality control overview and (2) analysis of bare earth ground returns. The LiDAR ground-return data were used for the 3D evaluation. The LiDAR data representing vegetation and above-grade features were excluded to eliminate data that would potentially obscure surface features or depressions.

Figure 5-2. Example of Orthography for Linear Stewardship Feature SG5-111.

The intermediate probability areas within Segment 5, which consisted of access gateways and ancillary support facilities, were analyzed utilizing 2D and 3D techniques, road surveyed, and selectively field verified.

In areas that were determined to have a higher probability area (near the reactor/operational areas or along the river), a total walkdown of the area was conducted because of a potentially higher probability of orphan site occurrence within these areas.

Aerial reviews were also conducted utilizing the color infrared portion of the orthophotography in order to identify vegetation anomalies. Color infrared will typically show healthy growing vegetation as red, where dormant or unhealthy vegetation will be indicated as light red or blue-green, depending upon the condition of the vegetation. The 750- by 750-m orthophotography photo tiles were visually reviewed on a computer screen from a mobile aerial perspective half a tile at a time to survey for vegetation anomalies. No features were identified for field verification with this survey.

5.2.2 Aerial Review Analysis

The entire Segment 5 area was visually reviewed on a computer screen from a mobile aerial perspective in 3D using the LiDAR data after the 2D aerial review had been conducted. One additional feature was identified using this technique.

During the aerial review baseline, geographical information data were included for the aerial reviewer's use in determining whether the feature had been previously identified. The baseline GIS data included features such as roads and railroads, borrow pits, export water lines, telecommunication and powerline easements, Hanford Site buildings, and other known structures. Baseline GIS data also included all WIDS site information available. During the initial aerial reviews, no dispositional GIS data (e.g., fire boundaries, herbicide application areas, 1943 imagery) were included until all features were recorded. After the aerial reviews, road surveys, and field verification were completed, a spatial analysis was conducted to identify and potentially disposition suspect features. The spatial analysis utilized historical maps, construction drawings, GIS data of existing site features, and rectified pre- and post-Hanford Site images to identify features.

The features identified in Segment 5 were compared to known GIS historical baseline information (e.g., historical drawings) to potentially identify the origin and/or purpose of the feature. When possible, timeline and origin estimation for each feature were developed using rectified orthophotography, maps, or GIS layers. This information was then recorded in the form of a disposition including all references. Figures 5-3 and 5-4 show examples of a linear feature (SG5-111) located during analysis of orthophotography, utilizing Global Mapper 3D software. Geophysics (see Section 6.2.10) was conducted along this feature, but no subsurface anomalies were detected; therefore, this feature was classified as Stewardship.

Figure 5-3. Example of LiDAR for Stewardship Feature SG5-111 (Northwest End).

Figure 5-4. 3D View for Stewardship Feature SG5-111 (Northwest End).

6.0 SEGMENT 5 FIELD INVESTIGATION

The field investigation and verification builds on results from the historical research and 2008 aerial imagery review subtasks by investigating the identified selected features and documenting observations. Road surveys were conducted when practical, and field verification walkdowns of targeted activity areas and selected features were conducted. The field investigation consists of walking over an area of interest in a systematic manner and locating, documenting, and mapping observed items and features that could lead to the identification of orphan sites. During the course of conducting the orphan site field investigation, observed items and elements that meet the definition of miscellaneous restoration items or stewardship elements also are identified and mapped.

6.1 FIELD INVESTIGATION DOCUMENTATION TOOLS AND APPROACH

The field investigation provides another level of assurance that all potential waste sites have been identified. The primary means used to record the information observed in the field include hand-held Trimble GeoXH® GPS units, digital cameras, and field logbooks. Geophysical survey instrumentation is used to supplement these tools for selected areas or features identified during the historical and 2008 aerial imagery review, or field investigation.

To ensure a systematic approach for area coverage, a standardized 30- by 30-m (98- by 98-ft) conceptual electronic grid is established over the area to be investigated. The grid and existing known features in the area are loaded onto a hand-held GeoXH GPS unit that is used in the field to monitor progress and record information. Using the conceptual grid as a guideline, the investigation is conducted with approximately 15-m (49-ft) spacing between team members. Segment 5 had two separate walkdown areas next to the river, consisting of approximately 873 ha (2,157 ac) (Figure 6-1).

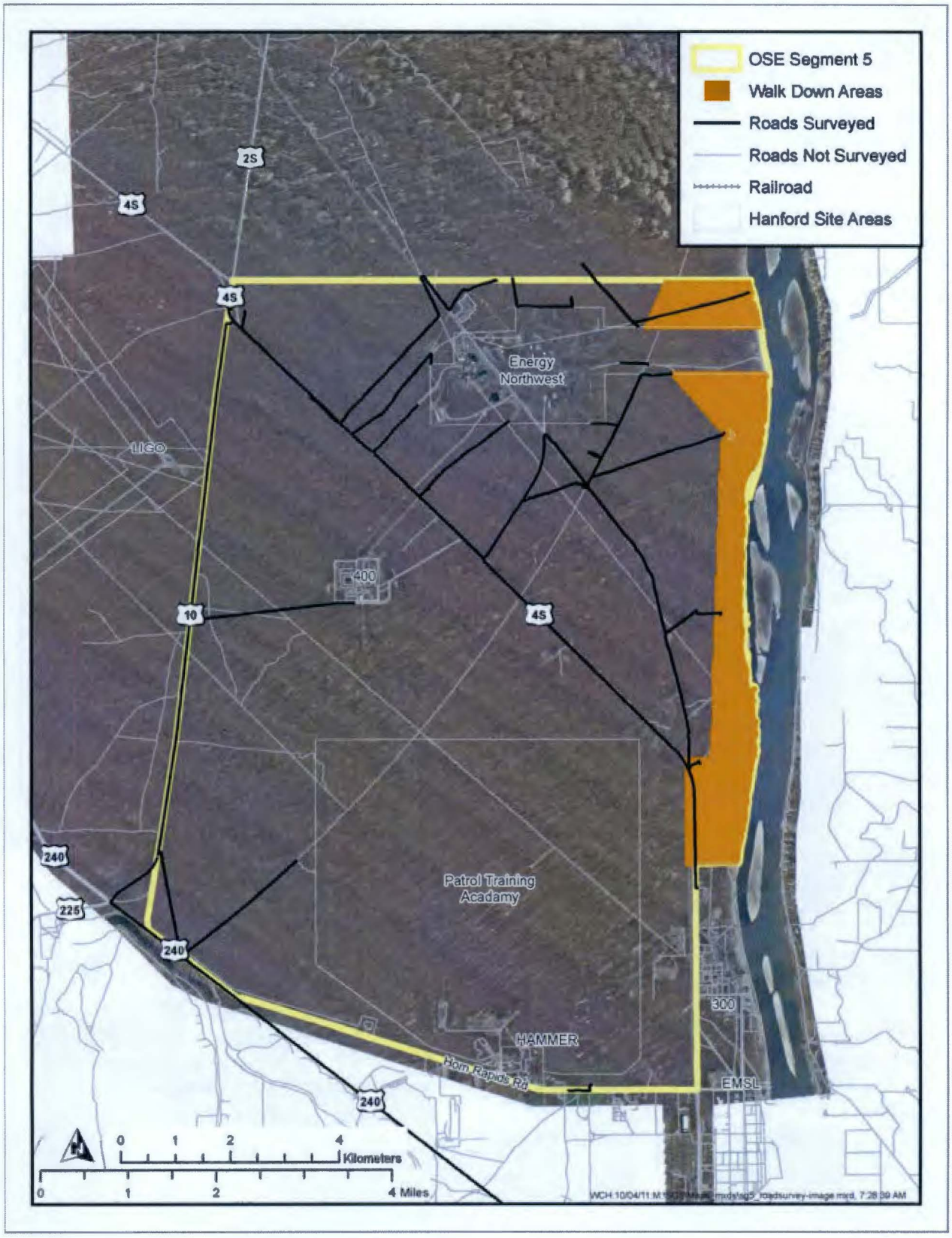
During the field verification investigations, any features not previously recorded during the orthophotography survey that warrant collection are recorded for inclusion into the GIS database. Road surveys are conducted concurrently during the field verification investigation of the target areas. The road surveys, when conducted, were recorded using the GeoXH trail data collection feature and are included as part of the GIS data documented and mapped for this project (Figure 6-1). Any newly discovered features not previously identified are recorded and added to the Segment 5 feature database.

6.2 FIELD INVESTIGATION SUMMARY

Items and features of interest that were observed during the investigation were recorded in North American Datum of 1983 Washington State Plane south coordinates as a point, using the GeoXH GPS unit. Attributes of each item or feature were recorded with the GeoXH from an imbedded data dictionary picklist structure created specifically for OSEs. Features of interest were also photographed with a digital camera.

® Trimble GeoXH is a registered trademark of Trimble Navigation Limited.

Figure 6-1. Segment 5 Road Survey and Walkdown Area Map.



During the course of conducting the field investigation, approximately 131 features (historical features excluded) were recorded using the GeoXH GPS unit. Associated images of the items and features were recorded in approximately 161 digital photographs. Items and features of interest observed in the field were initially categorized into one of the following groups:

- Potential orphan sites
- Miscellaneous restoration items
- Stewardship elements.

Integration of information from the historical review and field investigation activities, including final categorization of items and features, is reflected in the results presented in Section 7.0.

6.2.1 Geophysical Survey

Geophysical surveys were conducted at two locations to support the Segment 5 field investigations as shown in Figure 6-2. The geophysical surveys were conducted to determine the presence/absence of below-grade features pertaining to linear terrain disturbances or surface disturbances identified during the review of the orthophotography images. The geophysical investigations also aid in the disposition, classification, and documentation of identified features. Combinations of ground-penetrating radar and radio-detection geophysical investigation methods were used in the geophysical survey. Results from the geophysical survey are summarized below:

SG5-024: This feature consists of an apparent tree farm approximately 555 m south of the southeast corner perimeter road of ENW's reactor complex. Geophysics was conducted at a valve pit with hose bib and surrounding area to better understand the layout of the site. Geophysics indicated that a water line extended north of the valve box; a drain line extended south. Ground-penetrating radar data was collected adjacent to a row of the wood markers on metal posts; no anomalous features or broken soil features were detected in the data (WCH 2011a). Later information from ENW confirmed that this site was a landscaping nursery for the ENW nuclear reactor complex during the late 1970s to early 1980s time frame.

SG5-111: This feature consists of a 4-km (2.5-mi) terrain feature that begins near the southeast corner perimeter road of ENW nuclear reactor complex and runs southeast to the Columbia River. Geophysics was conducted approximately 244 m (800 ft) southeast of the northwest end of the linear, but no subsurface features were detected (WCH 2011b).

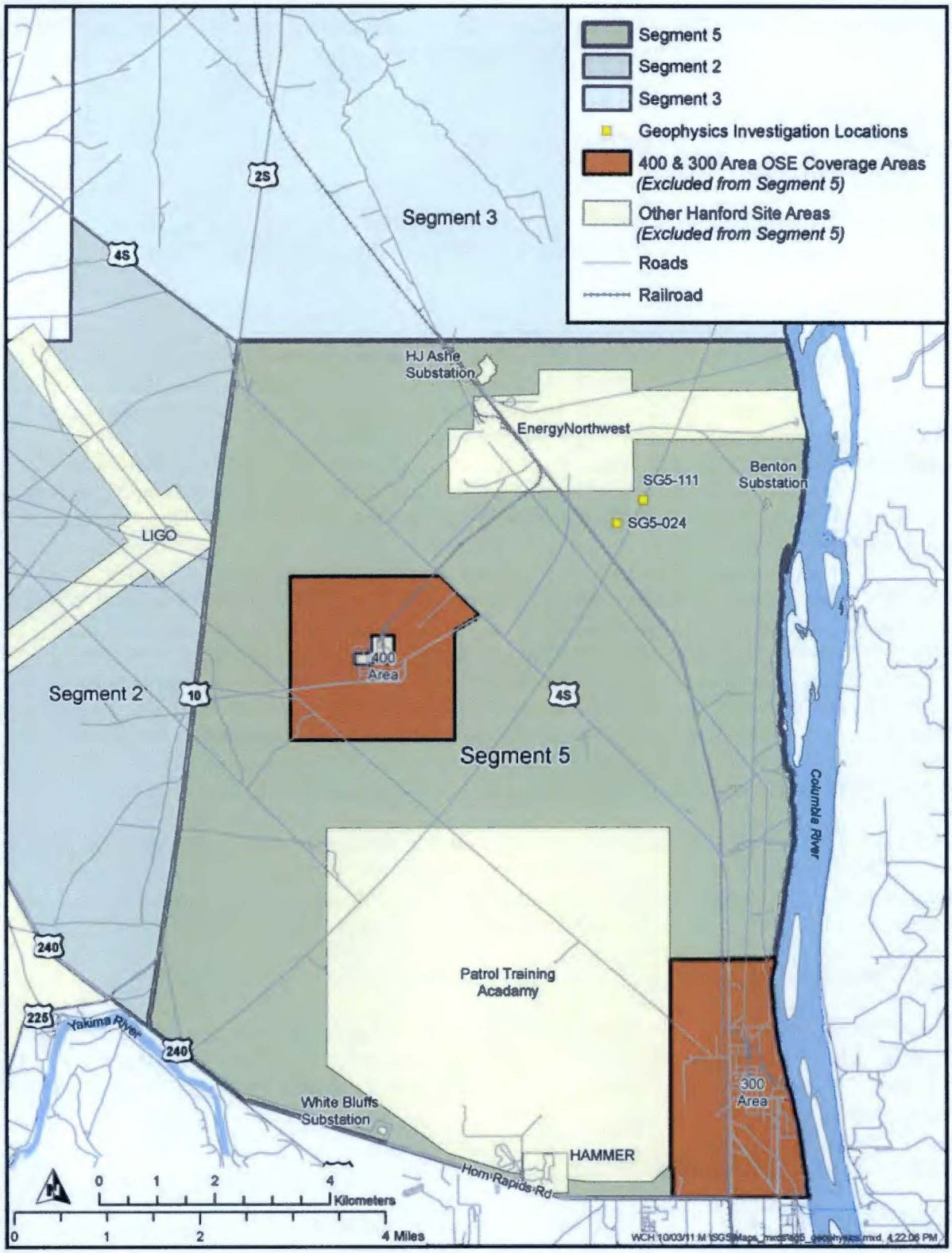
6.2.2 Physical Hazards

During the course of performing the field investigation, no physical hazards were identified. General surface debris presenting potential tripping hazards were present throughout Segment 5, but were not specifically recorded as physical hazards as defined for the purpose of performing OSEs.

6.2.3 Undocumented Wells

No undocumented wells were identified during this investigation.

Figure 6-2. Segment 5 Geophysics.



7.0 SEGMENT 5 EVALUATION RESULTS

The final step of the OSE process involves integrating information from the historical and LIDAR/orthophotography reviews with the field investigation finding. The features were then categorized and briefings were conducted with RL and EPA staff, incorporating comments or modifications to establish the final results. The final results are then documented in this summary report and reflected in updates to applicable components of the SIS and WIDS databases.

7.1 INTEGRATION OF HISTORICAL REVIEW AND FIELD INVESTIGATION INFORMATION

The OSE project team members reviewed information from the historical reviews and field investigation activities to refine the initial categorization of items and features into orphan sites, miscellaneous restoration items, and stewardship elements. Decisions regarding whether an item or feature of interest met the qualifications to be identified as an orphan site were made consistent with criteria established by the TPA-MP-14 process (RL-TPA-90-0001). This includes consideration of the following type of questions:

- Is it a solid waste management unit?
- Is it a waste disposal unit (e.g., pits, trenches, dumping areas, french drains)?
- Is it an unplanned release that represents a potential threat to human health and the environment?
- Is it an inactive contaminated structure?
- Does it require a *Resource Conservation and Recovery Act of 1976* permit to treat or store dangerous or mixed waste?
- Is it another type of storage unit (e.g., radioactive waste storage unit) that requires action?

The items identified during the OSE process that meet the criteria are typically unplanned releases, inactive structures, or waste disposal units. Inclusion of items or features in the category of Miscellaneous Restoration was based on the requirements of Section C.2.10 of the RCCC (WCH-2).

7.2 INFORMATION BRIEFINGS

Briefings were conducted to share information and results from the Segment 5 OSE. Initial briefings were held with representatives from the WCH project organization responsible for implementing remedial actions in the 600 Area. Results of the Segment 5 OSE were subsequently presented to RL project staff (River Corridor Program) and EPA staff during briefings conducted in July 2011.

The briefing included an overview of the OSE process, identification and review of proposed orphan sites, identification and review of miscellaneous restoration items, and identification and review of a representative group of items categorized as stewardship elements. Complete table listings from each of the three categories were distributed at the briefings, and selected photographs were projected and discussed with attendees.

7.3 FINAL CATEGORIZATION

Final categorization of the items and features documented during the Segment 5 OSE is presented in the following subsections. Associated summary table of miscellaneous restoration items and stewardship elements recorded during the Segment 5 area evaluation are provided in Tables 7-1 through 7-2. The table reflects the binning of items based on feedback and discussion from the information briefings summarized in Section 7.2. Locations of the Miscellaneous Restoration sites and stewardship elements for the Segment 5 are depicted in Appendix A, Figure A-1. A summary of the findings is as follows:

- 14,178 ha (35,033 ac) were evaluated
- One orphan site was identified
- 17 miscellaneous restoration items were recorded
- 110 stewardship elements were recorded
- Two locations were investigated through geophysics
- No physical hazard locations were identified.

7.3.1 Orphan Sites

A total of one orphan feature was identified through this OSE. The waste site identification number and a brief description of attributes are presented in Table 7-1.

A TPA-MP-14 discovery site evaluation checklist was completed for the discovery site identified through this evaluation and assigned a corresponding WIDS identification number. This new discovery site was "accepted" in accordance with the TPA-MP-14 processes and added to the RCCC scope for subsequent characterization and determination of any remedial actions (Figure 2-1). Information associated with the new discovery site is stored in the waste site component of the SIS database including a site identification number, location, description, photographs, and status.

7.3.2 Miscellaneous Restoration

There were 17 miscellaneous restoration items documented as part of the Segment 5 OSE (identified in Table 7-2). It is anticipated that these items will be removed or otherwise addressed in accordance with RCCC requirements. The OSE process includes only the debris component of the miscellaneous restoration contract requirement. Miscellaneous restoration items identified during the evaluation represent specific observations documented during the field investigation task. Information associated with the miscellaneous restoration item is stored in the OSE component of the SIS database including tracking number, location, summary description, and photograph.

7.3.3 Stewardship Elements

Approximately 110 stewardship elements were documented as part of the Segment 5 OSE and are identified in Table 7-2. These stewardship elements include both items and features that were investigated based on potential or unresolved questions and then determined through additional research and/or field verification not to meet the criteria for identification as an Orphan Site or Miscellaneous Restoration. They also include items or features that were observed during the field investigation and documented to acknowledge their presence based on the likelihood that they would remain in Segment 5 following completion of the RCCC scope. Although stewardship elements do not meet the criteria for the Orphan Sites or Miscellaneous Restoration categories and are not within the RCCC cleanup scope, it is possible that some may be removed because they ultimately lie within the excavation footprint or other impacted areas (e.g., staging pile areas, container queues) associated with CERCLA remedial actions. Information associated with the Stewardship items is stored in the OSE component of the SIS database and includes tracking numbers, locations, summary descriptions, and photographs.

7.3.4 Waste Information Data System

No additional WIDS characterization features were collected during the OSE that were associated with an existing WIDS site and classified as WIDS for Segment 5.

7.3.5 No Further Evaluation Features

A total of 12 no further evaluation (NFE) features were recorded as part of the Segment 5 OSE process. During field verification of these features it was determined that there were no visible objects at the location of interest. It was assumed that the object was debris or trash that had blown away or been removed or was a natural element (boulder, badger hole, gopher mound, rock, etc). These features were reclassified as NFE for the final disposition status and not recorded as part of the SIS.

Table 7-1. Segment 5 Orphan Site Grouping.

WIDS Number	General Description	Corresponding Orphan Site Feature Number
600-386	Segment 5 Wet Cell Battery Debris Area #1	SG5-127

WIDS = Waste Information Data System

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-001	Two utility junction boxes; ABAN is written on both junction boxes	588692.38	128428.82	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-002	4-m-long decayed utility pole laying on the ground	588720.09	128377.04		This feature has been classified as Stewardship.	S
SG5-003	1-m white object visible in aerial photography	591304.13	128321.26		Nothing was visible at this location at the time of field verification. This feature has been classified as No Further Evaluation.	NFE
SG5-004	100-m area with multiple buried utilities associated with the "Y" barricade; active air monitors and weather station	585088.83	128249.05		This feature has been classified as Stewardship.	S
SG5-005	1-m object visible in aerial photography	593708.19	128187.15		Nothing was visible at this location at the time of field verification. This feature has been classified as No Further Evaluation.	NFE
SG5-006	100-m disturbed area with multiple gravel/dirt piles. No debris or staining visible	585377.10	128137.35		This feature has been classified as Stewardship.	S
SG5-007	4-m area of decayed wood debris	590763.31	128132.66		This feature has been classified as Stewardship.	S
SG5-008	5-m area where excess gravel was dumped to the ground	585071.47	128086.98		This feature has been classified as Stewardship.	S
SG5-009	5-m area of debris consisting of plywood and a piece of fire hose near a well	585353.93	128023.56		This feature has been classified as Stewardship.	S
SG5-010	16-m-long wooden utility pole lying on the ground	592454.14	127867.74		This feature has been classified as Stewardship.	S
SG5-011	15-m-long wooden utility pole lying on the ground	592418.52	127838.69		This feature has been classified as Stewardship.	S
SG5-012	1-m debris consisting of a van pool sign lying on the ground	585602.79	127450.47		This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-013	5-m area of wood debris visible in aerial photography	587684.79	126676.24		Nothing was visible at this location at the time of field verification. This feature has been classified as No Further Evaluation.	NFE
SG5-014	Two sheets of decayed plywood in a 15-m area; photograph only shows one sheet	586609.15	126492.11		This feature has been classified as Stewardship.	S
SG5-015	6-m area consisting of a pile of dirt with some broken up asphalt	588440.36	126220.43		This feature has been classified as Stewardship.	S
SG5-016	1-m object visible in aerial photography	588197.85	125969.59		Nothing was visible at this location at the time of field verification. This feature has been classified as No Further Evaluation.	NFE
SG5-017	1-m wooden utility pole segment lying on the ground	593800.96	126313.55		This feature has been classified as Stewardship.	S
SG5-018	1- x 1-m concrete manhole with steel lid next to a BPA electrical transmission tower	594147.10	125935.77		This feature has been classified as Stewardship.	S
SG5-019	10-m area with a concrete cleanout and a chunk of concrete	592001.03	125831.09		This feature has been classified as Stewardship.	S
SG5-020	5-m-diameter mound of dirt and cobbles	594316.93	125577.41		This feature has been classified as Stewardship.	S
SG5-021	Northwest end of a 415-m-long drift fence constructed of railroad ties stacked length-wise two and three high	590958.28	125581.16	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-021	Southeast end of a 415-m-long drift fence constructed of railroad ties stacked length-wise two and three high	591199.89	125252.36	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-022	38-L (10-gal) empty fuel tank	594539.80	128287.71		This feature has been classified to be removed and disposed.	MR
SG5-023	East end of a 160-m-long drift fence constructed of railroad ties that has been burned by a range fire	590049.56	125969.03	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-023	West end of a 160-m-long drift fence constructed of railroad ties that has been burned by a range fire	589926.16	125872.66	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-024	320- x 55-m area with a valve pit/hose bib, multiple debris sites, and what appears to be an experiment with poplar trees	591643.99	125441.88	Geophysics was conducted at this feature, and results indicated a below ground linear feature running north to south ending at the concrete valve box. ENW was contacted and is the responsible party.	These features are associated with a coolant water re-use demonstration project from the late 1970s. ENW plans on cleaning up the site. This feature has been classified as No Further Evaluation.	NFE
SG5-025	Electrical boxes for a removed air monitoring station	592254.75	125282.17		This feature has been classified to be removed and disposed.	MR
SG5-026	2-m-diameter x 2-m-tall empty steel culvert standing on end. Unknown if it extends underground	594036.15	125317.73		This feature has been classified to be removed and disposed.	MR
SG5-027	1- x 2-m object was visible in aerial photography	591211.18	125058.36		Nothing was visible at this location at the time of field verification. This feature has been classified as No Further Evaluation.	NFE
SG5-028	1- x 2-m white object was visible in aerial photography.	588707.09	124783.73		Nothing was visible at this location at the time of field verification. This feature has been classified as No Further Evaluation.	NFE

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-029	One single railroad tie 15 m from a drift fence constructed of railroad ties	591551.98	124782.38		This feature has been classified as Stewardship.	S
SG5-030	Northwest end of a 150-m-long drift fence constructed of railroad ties stacked length-wise two and three high	591570.70	124774.29	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-030	Southeast end of a 150-m-long fence drift fence constructed of railroad ties stacked length-wise two and three high	591641.90	124676.65	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-031	1- x 1-m aluminum road sign adjacent to Rt. 10	584337.70	122296.63		This feature has been classified as Stewardship.	S
SG5-032	1- x 1-m concrete slab with a steel eyelet used as a support tie down	584395.70	122236.43		This feature has been classified as Stewardship.	S
SG5-033	1- x 1-m concrete slab with a steel eyelet used as a support tie down	584367.51	122207.30		This feature has been classified as Stewardship.	S
SG5-034	1- x 1-m concrete slab with a steel eyelet used as a support tie down	584406.97	122197.42		This feature has been classified as Stewardship.	S
SG5-035	Northwest end of a 720-m-long drift fence constructed of railroad ties stacked length-wise two and three high	591795.48	124483.50	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-035	Southeast end of a 720-m-long drift fence constructed of railroad ties stacked length-wise two and three high	592232.99	123910.77	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-036	15-m-long drift fence constructed of wooden lathe skirting and railroad ties used for end posts	592185.05	124003.09	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-037	1- x 2-m underground steel utility vault adjacent to rail line	592293.62	123891.45		This feature has been classified as Stewardship.	S
SG5-038	Two 1- x 2-m underground steel utility vaults and a US West junction box in a 2-m area	589276.56	123826.70	LMSI determined this feature does belong to DOE-RL, status active	This feature has been classified as Stewardship.	S
SG5-039	Northwest end of a 150-m-long drift fence constructed of railroad ties stacked length-wise two and three high	592310.29	123817.72	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-039	Southeast end of a 150-m-long drift fence constructed of railroad ties stacked length-wise two and three high	592395.50	123693.94	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-040	1-m object was visible in aerial photography	592854.79	123830.59		Nothing was visible at this location at the time of field verification. This feature has been classified as No Further Evaluation.	NFE
SG5-041	5-m wooden utility pole cross arm	591917.52	123755.94		This feature has been classified as Stewardship.	S
SG5-042	15-m-long drift fence constructed of wooden lathe skirting and railroad ties used for end posts	592386.10	123744.26	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-042	15-m-long drift fence constructed of wooden lathe skirting and railroad ties used for end posts	592411.11	123708.99	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-043	Northwest end of a 100-m-long drift fence constructed of railroad ties stacked length-wise two and three high	592495.01	123600.65	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-043	Southeast end of a 100-m-long drift fence constructed of railroad ties stacked length-wise two and three high	592545.85	123509.75	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-044	2-m-diameter area of excess sand next to the road	590347.02	122776.87		This feature has been classified as Stewardship.	S
SG5-045	110-m area of heavily disturbed terrain; no debris or staining was visible when field visited	593063.64	122227.22		This feature has been classified as Stewardship.	S
SG5-046	12-m-long pole or pipe laying on the ground	590801.50	121519.71		This feature has been classified to be removed and disposed.	MR
SG5-047	2- x 4-m piece of sheet metal	590849.70	121298.22		This feature has been classified to be removed and disposed.	MR
SG5-048	1- x 9-m piece of aluminum siding	591929.80	121326.45		This feature has been classified to be removed and disposed.	MR
SG5-049	2-m pole or pipe lying on the ground; feature is within the buffer area of Hanford patrol firing range	587515.26	121265.95		This feature has been classified as Stewardship.	S
SG5-050	15-m area of grout poured on the ground adjacent to WIDS site 600-276	591283.38	121269.02		This feature has been classified as Stewardship.	S
SG5-051	45-m-long drift fence constructed of wooden lathe skirting and railroad ties used for posts	593279.62	120948.49	MSA requested the railroad erosion control fence be left in-place	This feature has been classified as Stewardship.	S
SG5-052	25-m-long, 20.3-cm-diameter aluminum pipe under secondary road. Possibly used as a conduit to get lines under road	593976.51	120958.15		This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-053	Six tires in a 15-m area used when tracked vehicles cross rail tracks	593290.45	120866.20		This feature has been classified as Stewardship.	S
SG5-054	3- x 3-m pre-Hanford concrete foundations/slab with lag bolts visible; this feature is 40 m from the river's edge	594648.84	120379.51		This feature has been classified as Stewardship.	S
SG5-055	1-m object was visible in aerial photography	583848.57	118209.98		This feature was field verified to be a boulder and has been classified as No Further Evaluation.	NFE
SG5-056	2-m segment of a wooden utility pole lying on the ground	583865.19	117640.03		This feature has been classified as Stewardship.	S
SG5-057	2-m segment of a wooden utility pole lying on the ground	583899.97	117459.42		This feature has been classified as Stewardship.	S
SG5-058	1- x 1-m object was visible in aerial photography	585547.57	117488.62		This feature was field verified to be a badger hole and has been classified as No Further Evaluation.	NFE
SG5-059	30-m-diameter area with two farmstead concrete slabs and a 2- x 2-m concrete below-ground structure	591641.13	113930.14		This feature has been classified as Stewardship.	S
SG5-060	15-m area with two concrete cleanouts and chunks of concrete point collected in the middle	593470.08	119772.16		This feature has been classified as Stewardship.	S
SG5-061	10-m area of excess gravel	593464.34	119713.91		This feature has been classified as Stewardship.	S
SG5-062	15-m decayed wooden utility pole lying on the ground	593788.61	119680.97		This feature has been classified as Stewardship.	S
SG5-063	5-m decayed wooden utility pole lying on the ground	593682.46	119630.58		This feature has been classified as Stewardship.	S
SG5-064	Possible 5-m-long debris segment in the river	594645.72	119547.16		This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-065	1- x 4-m plastic sign	593607.58	118758.26		This feature has been classified to be removed and disposed.	MR
SG5-066	2- x 2-m sheet metal	594376.80	118710.86		This feature has been classified as Stewardship.	S
SG5-067	4-m-diameter depression, no debris or staining visible	593159.91	118437.03	This feature is located approximately 600 m east of the Hanford Patrol firing range exclusion boundary	This feature has been classified as Stewardship.	S
SG5-068	5-m-diameter gravel pile with a 1-m depression in the center of it	593428.87	118180.43	This feature is located approximately 860 m east of the Hanford Patrol firing range exclusion boundary	This feature has been classified as Stewardship.	S
SG5-069	1- x 2-m sheet of metal siding	594105.01	117965.76		This feature has been classified as Stewardship.	S
SG5-070	10-m area of concrete chunk debris	593653.72	119757.27		This feature has been classified as Stewardship.	S
SG5-071	3-m area of railroad debris consisting of metal plates, spike bucket, and a tire	593452.42	119769.09		This feature has been classified to be removed and disposed.	MR
SG5-072	Electrical panel and fuse box for an out of service and removed traffic signal. There is a below-grade electrical box	589752.91	123494.27	ENW is/has used this feature as a source for power to the new street lights. This feature was field verified again on 8-4-2011, but no change to its condition	This feature has been classified to be removed and disposed.	MR
SG5-073	Traffic light signal concrete base; the pole and lights have already been removed	589719.65	123487.16	ENW are/have installed street lights at this location and may have used this feature as part of the new construction. This feature was field verified again on 8-4-2011, but no change to its condition	This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-074	Traffic light signal concrete base and below-grade electrical junction box; the pole and lights have already been removed	589672.30	123486.31	ENW have installed street lights at this location and may have used this feature as part of the new construction. This feature was field verified again on 8-4-2011, but no change to its condition	This feature has been classified as Stewardship.	S
SG5-075	1-m x 25.4-cm canister	586435.61	126661.05		PNNL was contacted, and they said the canister is a rain gauge. This feature has been classified as Stewardship.	S
SG5-076	Junction boxes for telephone line	585062.14	127900.64	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-077	Active electrical meter photo cell turns on street lights	585060.75	127793.07		This feature has been classified as Stewardship.	S
SG5-078	Junction box for telephone line	585618.64	127365.00	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-079	Junction box for US West communication lines	585842.12	127128.16	LMSI determined this feature does belong to DOE-RL, status active	This feature has been classified as Stewardship.	S
SG5-080	Junction box for telephone line	585860.27	127115.31	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-081	Junction box for US West communication lines	586358.29	126625.23	LMSI determined this feature does belong to DOE-RL, status active	This feature has been classified as Stewardship.	S
SG5-082	Junction box for US West communication lines	586520.76	126467.18	LMSI determined this feature does belong to DOE-RL, status active	This feature has been classified as Stewardship.	S
SG5-083	Junction box for telephone line	586533.81	126461.35	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-084	Junction box/telephone	587668.21	125454.57	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-085	Junction box/Sprint	587683.06	125474.61	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-086	5-m area with three junction boxes; two are telephone and one is Sprint	587636.60	125418.26	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-087	Junction box	586983.33	126039.41	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-088	Junction box/telephone	587364.25	125669.18	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-089	Junction box/Sprint	587786.02	125274.67	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-090	Junction box/US West	587785.78	125264.70	LMSI determined this feature does belong to DOE-RL, status active	This feature has been classified as Stewardship.	S
SG5-091	3-m area with multiple junction boxes/Sprint and telephone	588029.71	125047.58	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-092	Junction box	589492.88	123634.75	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-093	Junction box/telephone	589879.55	123254.74	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-094	Junction box/telephone	590310.01	122835.65	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-095	Two junction boxes in a 3-m area/telephone	590951.43	122201.43	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-096	Junction box/telephone	591330.43	121822.84	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-097	Junction box/telephone	591970.20	121182.47	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-098	Junction box/US West	592041.22	121106.32	LMSI determined this feature does belong to DOE-RL, status active	This feature has been classified as Stewardship.	S
SG5-099	Junction boxes in a 2-m area, telephone and Sprint	592398.41	120760.90	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-100	Junction box/US West	592499.69	120653.85	LMSI determined this feature does belong to DOE-RL, status active	This feature has been classified as Stewardship.	S
SG5-101	Junction box/telephone	592878.39	120284.25	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-102	Junction box/US West	593166.28	119993.96	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-103	Junction box/US West	593412.14	119596.89	LMSI determined this feature does belong to DOE-RL, status active	This feature has been classified as Stewardship.	S
SG5-104	Junction boxes in a 3-m area/telephone	593516.65	119139.85	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-105	Junction box	593522.76	118776.47	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-106	4-m-long x 20.3-cm steel I-beam used to smooth gravel roads	591604.00	124833.00		This feature has been classified to be removed and disposed.	MR
SG5-107	Two antennas and two 5-m-long pipes that held antennas in the air; also a 6-m- long segment of PVC pipe	585337.26	128019.39		This feature has been classified to be removed and disposed.	MR
SG5-108	Road sign and posts lying on the ground	584501.94	122390.07		This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-109	6-m-long standing wooden utility pole with no wires attached	585903.01	122605.94		This feature has been classified to be removed and disposed.	MR
SG5-110	Temporary electrical panel and wire lying on the ground, no staining visible	584060.15	116682.08		This feature has been classified to be removed and disposed.	MR
SG5-111	Northwest end of a 4-km linear terrain feature, not visible in the 1943 imagery or GIS data	591960.38	126046.72	Identified in 3D imagery. Geophysics was conducted, and no below-ground anomaly was detected	This feature has been classified as Stewardship.	S
SG5-111	Southeast end of a 4-km linear terrain feature, not visible in the 1943 imagery or GIS data	594412.84	122930.65	Identified in 3D imagery	This feature has been classified as Stewardship.	S
SG5-112	2-m area of debris consisting of two, square, dry-cell batteries, one oil filter, and glass and metal cans; this feature is 30 m west of a dirt road and near the river, no staining visible	594627.06	127813.10		This feature has been classified to be removed and disposed.	MR
SG5-113	Transmission tower insulator bundle lying on the ground	594479.52	125683.89		This feature has been picked up by BPA and has been classified as No Further Evaluation.	NFE
SG5-114	209-L (55-gal) drum partially filled with sediment lying on the ground, no staining visible	594753.11	125635.22		This feature has been classified to be removed and disposed.	MR
SG5-115	209-L (55-gal) drum standing upright and two-thirds full of dirt. No secondary staining observed	594715.23	125625.52		This feature has been classified to be removed and disposed.	MR
SG5-116	Out of service air monitoring station that's	594665.30	125260.92		This feature has been picked up by PNL for re-use and has been classified as No Further Evaluation.	NFE

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-117	Junction box/telephone	594088.61	124188.43	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-118	Junction box/telephone	594019.88	122266.12	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-119	Junction box/no markings	594013.87	122147.34	LMSI determined this feature does not belong to DOE-RL, status unknown	This feature has been classified as Stewardship.	S
SG5-120	4-m area of metal banding and wood debris	594005.30	122045.30		This feature has been classified as Stewardship.	S
SG5-121	15-m area of scattered PVC and metal pipe debris around a groundwater monitoring well	594249.22	121565.26	Provided information to CHPRC groundwater program	This feature has been classified as Stewardship.	S
SG5-122	5-m area of metal grating next to the road	593990.36	121184.99		This feature has been classified as Stewardship.	S
SG5-123	7-m area of wood and metal debris consisting mostly of pre-Hanford auto body parts	594622.76	120367.10		This feature has been classified as Stewardship.	S
SG5-124	Nine light bulbs in a 2-m area	594204.29	119951.22		This feature has been classified as Stewardship.	S
SG5-125	3-m area of partial insulator debris	593585.39	119707.04		This feature has been classified as Stewardship.	S
SG5-126	30-m area of scattered cinder blocks 40 m west of an old road	594526.34	119592.28		This feature has been classified as Stewardship.	S
SG5-127	Wet-cell battery remnants partially buried and possibly some related staining visible	593533.20	118226.11		This feature is classified as an Orphan Site.	OS
SG5-128	5-m area concrete block debris	594404.57	118849.72		This feature has been classified as Stewardship.	S

Table 7-2. Segment 5. (15 Pages)

OSE-Identification	Site Description	GPS Easting	GPS Northing	Notes	Disposition	Final Classification [a] (MR, NFE, OS, or S)
SG5-129	This feature consists of a 23-m-long x 3-m-wide berm, 7.6-cm metal pipe protruding from the ground, and bentonite near decommissioned well 699-S16-E14	594310.47	118796.62	This feature appears to be components of a mud pit associated with the former Basalt Waste Isolation Project well. The drilling date of the well is 8-31-1981	This feature has been classified as Stewardship.	S
SG5-130	57-L (15-gal) drum partially filled with sediment laying on the ground, no staining visible	594440.88	125787.50		This feature has been classified to be removed and disposed.	MR
SG5-131	This feature consists of a 300- x 460-m scraped area next to the southeast corner of the perimeter road at ENW units 1 and 4	591201.36	125860.62	No activity is apparent from 1975 to 1981 based upon imagery	Aerial imagery analysis indicates this feature was probably related to ENW 1 and 4 construction. This feature has been classified as Stewardship.	S
SG5-132	This feature consists of the historical location of the Wye Barricade septic pit attached to the 604-G Building. This feature was 0.9- x 1.5- x 1.2-m (3-ft x 4 ft 10 in.- x 4-ft) deep.	585076.34	128274.56	This feature was demolished in 10-28-2004. During demolition of the tank it was observed that a 10-cm clay pipe that was approximately 61 cm bgs was connected to the south side of the tank. The pipe was broken during the demo and left in place	Due to the nature of operations at the Wye Barricade, this feature has been classified as Stewardship.	S

[a] MR = Miscellaneous Restoration OS = Orphan Site
NFE = No Further Evaluation S = Stewardship

BPA = Bonneville Power Administration
CHPRC = CH2MHill Plateau Remediation Company
DOE-RL = U.S. Department of Energy, Richland Operations Office
ENW = Energy Northwest
GIS = Geographical Information System
GPS = global positioning system
LMSI = Lockheed Martin Services, Inc
MSA = Mission Support Alliance
OSE = Orphan Sites Evaluation
PNNL = Pacific Northwest National Laboratory
PVC = polyvinyl chloride
WIDS = Waste Information Data System

8.0 REFERENCES

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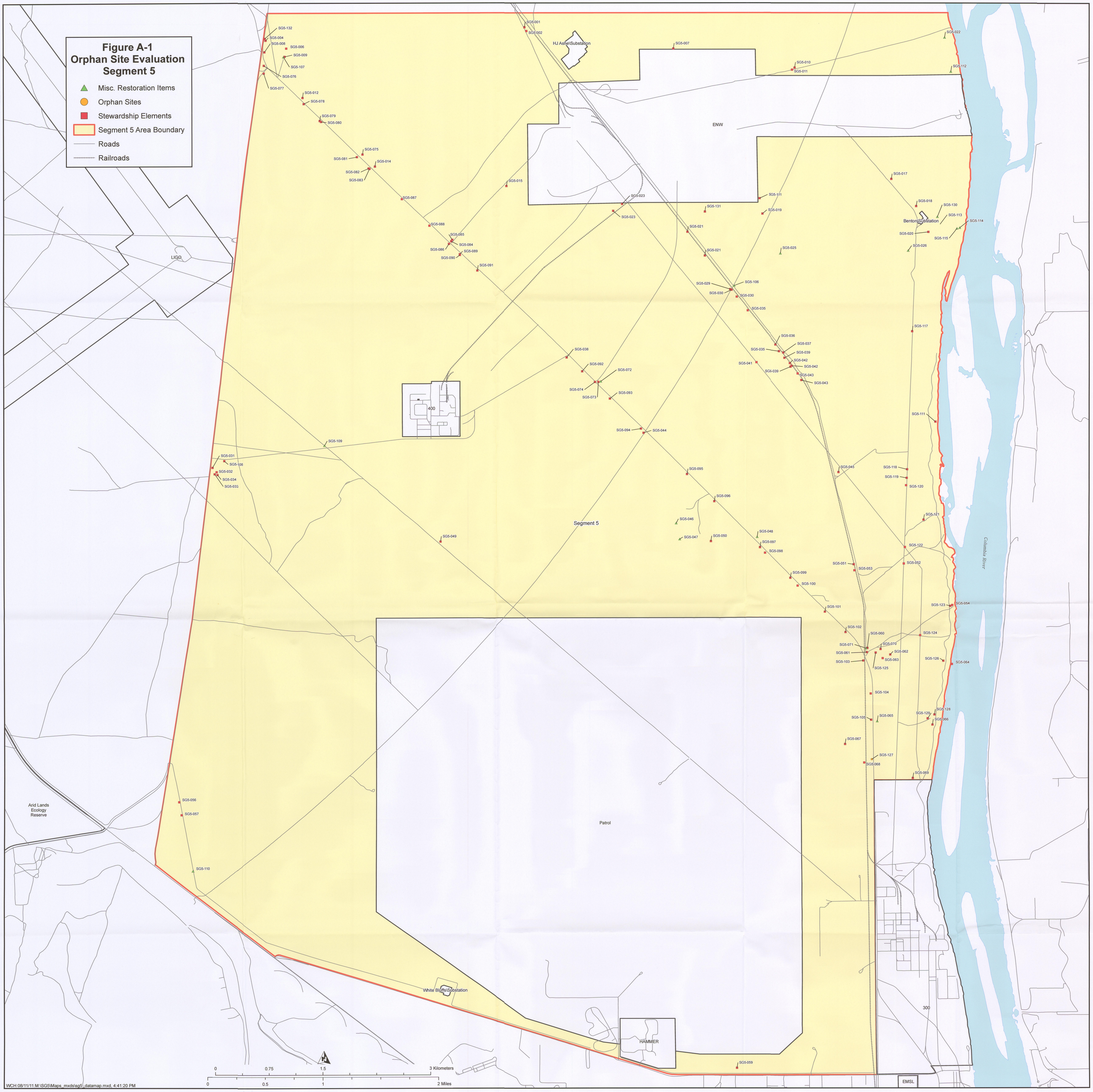
APPENDIX A

MAP

Figure A-1. Segment 5 Orphan Sites Evaluation Map.

Figure A-1
Orphan Site Evaluation
Segment 5

- Misc. Restoration Items
- Orphan Sites
- Stewardship Elements
- Segment 5 Area Boundary
- Roads
- Railroads



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