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Land Use Control Implementation Plan for the Early Construction and Operational Disposal Site N-1 (NBN), Central Shops Scrap Lumber Pile (631-2G), and Building 690-N, Process Heat Exchanger Repair Facility (aka Ford Building) Operable Unit (U)

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DISCLAIMER

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and
Savannah River Nuclear Solutions, LLC
Aiken, South Carolina

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

~	approximate, approximately
ac	acre
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CSSLP	Central Shops Scrap Lumber Pile
ECODS	Early Construction and Operational Disposal Site
EPC	exposure point concentration
ft	feet
ha	hectare
HAZWOPER	Hazardous Waste Operations and Emergency Response
HH	human health
km	kilometer
LLC	Limited Liability Company
LUC	land use controls
LUCAP	Land Use Controls Assurance Plan
LUCIP	Land Use Controls Implementation Plan
m	meter
mi	mile
OU	Operable Unit
PCB	polychlorinated biphenyl
PCR	Post-Construction Report
QA	quality assurance
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SCDHEC	South Carolina Department of Health and Environmental Control
SDC	Site Development Control
SEMS	Superfund Enterprise Management System
SRNS	Savannah River Nuclear Solutions, LLC
SRS	Savannah River Site
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
WSRC	Westinghouse Savannah River Company, LLC

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1.0 INTRODUCTION

This Land Use Control Implementation Plan (LUCIP) has been prepared for the Early Construction and Operational Disposal Site N-1 (NBN), Central Shops Scrap Lumber Pile (631-2G), and Building 690-N, Process Heat Exchanger Repair Facility (aka Ford Building) Operable Unit (OU). The purpose of this LUCIP is to describe how the selected land use controls (LUC) established in the *Record of Decision for the Early Construction and Operational Disposal Site N-1 (NBN), Central Shops Scrap Lumber Pile (631-2G), and Building 690-N, Process Heat Exchanger Repair Facility (aka Ford Building) Operable Unit* (SRNS 2022) will be implemented and maintained. The LUC objectives have been documented in the Record of Decision (ROD) and are listed in Section 3.0.

The selected remedy for the Early Construction and Operational Disposal Site N-1 (NBN), Central Shops Scrap Lumber Pile (631-2G), and Building 690-N, Process Heat Exchanger Repair Facility (aka Ford Building) OU (ECODS N-1, CSSLP, and Ford Building OU) leaves hazardous substances in place that pose a potential future risk and will require land use restrictions until the concentrations of hazardous substances in the soil and remnant concrete slab are at levels that allow for unrestricted use. As agreed on March 30, 2000, among the United States Department of Energy (USDOE), the United States Environmental Protection Agency (USEPA), and the South Carolina Department of Health and Environmental Control (SCDHEC), Savannah River Site (SRS) is implementing a Land Use Control Assurance Plan (LUCAP) (WSRC 1999) to ensure that the LUCs required by numerous remedial decisions at SRS are properly maintained and periodically verified. This document, the ECODS N-1, CSSLP, and Ford Building OU LUCIP, contains the detailed and specific measures required to implement and maintain the LUCs selected as part of this particular remedial decision. Approval by USEPA and SCDHEC is required for any modification or termination of the LUCs.

USDOE is responsible for implementing, maintaining, monitoring, reporting, and enforcing the LUCs in accordance with the approved ECODS N-1, CSSLP, and Ford Building OU LUCIP. Upon final approval, the ECODS N-1, CSSLP, and Ford Building OU LUCIP will be appended to the LUCAP and should be considered incorporated by reference into the ECODS N-1, CSSLP and

Ford Building OU ROD, establishing implementation and maintenance requirements for the LUCs under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the SRS Federal Facility Agreement (FFA) (FFA 1993). The ECODS N-1, CSSLP, and Ford Building OU LUCIP will remain in effect unless and until modifications are approved by USEPA and SCDHEC as necessary for protection of human health (HH) and the environment. In accordance with Section 121(c) of CERCLA and National Oil and Hazardous Substances Pollution Contingency Plan §300.430(f)(5)(iii)(c), a statutory review will be conducted within five years of initiation of the remedial action, and every five years thereafter, to ensure that the remedy continues to be protective of HH and the environment. Any approved ECODS N-1, CSSLP, and Ford Building OU LUCIP modification will be appropriately documented for incorporation by reference into the ECODS N-1, CSSLP, and Ford Building OU ROD (SRNS 2022).

2.0 OVERVIEW OF REMEDIAL ACTION

2.1 General Description and History of the ECODS N-1, CSSLP, and Ford Building OU

SRS occupies ~803 kilometers (km^2) (310 square miles [mi^2]) of land adjacent to the Savannah River, principally in Aiken and Barnwell counties of South Carolina (Figure 1). SRS is located ~40.2 km (25 mi) southeast of Augusta, Georgia, and 32 km (20 mi) south of Aiken, South Carolina.

USDOE owns SRS, which historically produced tritium, plutonium, and other special nuclear materials for national defense and the space program. Chemical and radioactive wastes are by-products of nuclear material production processes. Hazardous substances, as defined by the CERCLA, are currently present in the environment at SRS.

The OU consists of the ECODS N-1 subunit, CSSLP subunit, and the Ford Building subunit. These three subunits are located in three distinct locations within and near N Area (Central Shops) (Figure 1) in an area of relatively flat terrain (Figure 2). The ECODS N-1, CSSLP, and Ford Building OU is located within an industrial area, and the future land use is reasonably anticipated to remain industrial.

Groundwater is not part of the OU and will be addressed under the Central Shops Groundwater OU.

2.1.1 ECODS N-1 Subunit

ECODS N-1 is one of 25 ECODS at SRS that were used during the construction and early operation of SRS for disposal of construction debris and other non-radioactive waste materials. It is located within the Pen Branch watershed in N Area (Figure 2). Historical aerial photographs revealed that the area where the subunit is located was farmland prior to construction of the SRS (WSRC 2001). ECODS N-1 is 107 meters (m) (350 feet [ft]) long by 15 m (50 ft) wide. Waste disposed of in ECODS N-1 was buried in two trenches, each ~46 m (150 ft) long and located end-to-end (Figure 3). ECODS N-1 was used to dispose of trash and construction debris, some containing asbestos, associated with the construction and operation of N Area. A portion of one pit may have been used as a burn pit for disposing of combustible waste.

As reported in the Site Evaluation Report for ECODS N-1 (NBN) (WSRC 2001), ECODS N-1 is located in a relatively flat area that slopes gradually to the south. Ground surface elevation at ECODS N-1 is ~88 m (290 ft) above mean sea level. Runoff from the subunit runs overland to the south and is collected by an unnamed tributary of Pen Branch, which is 360 m (1,200 ft) to the south. From this point, the unnamed tributary flows south for 1.9 km (1.2 mi) before discharging into Pen Branch, which then flows southwest for an additional 17 km (11 mi) before entering the Savannah River. ECODS N-1 was in use from August 1952 to June 1954. The U.S. Department of Agriculture Forest Service harvested timber and replanted ECODS N-1 in 2000. ECODS N-1 is currently a wooded area containing mature pine trees, providing a moderate habitat quality for ecological receptors (Figure 3).

2.1.2 CSSLP Subunit

The CSSLP subunit is located in the Fourmile Branch watershed in N Area. The former scrap lumber pile lies in the southwestern sloping plain adjacent to the Central Shops Burning/Rubble Pits (631-1G and 631-3G) and north of a surface water impoundment area (southwestern portion of the subunit), a wetland (southwest of the impoundment area), and intermittent stream (located

within the wetland area). The CSSLP subunit is segregated into two areas, the Upland Area (~1.3 hectares (ha) [3.3 acres (ac)]) and the Surface Water Impoundment Area (~0.41 ha [1.02 ac]). The Upland Area was cleared in 1951 and used for equipment laydown and rubble storage in addition to an area for burning construction-related material. Before 1951, the area was farmland. Historically, the CSSLP was used to burn various unknown types and quantities of wood, which may have included treated lumber and creosote-treated wood. Active burning at the CSSLP ended in the mid-2000s. Removal and disposal of arsenic-contaminated surface soil and sediment are expected to meet the cleanup levels for unrestricted land use. No LUCs or five-year remedy reviews are expected following remedy implementation.

2.1.3 Ford Building Subunit

The Ford Building subunit (690-N) is located within the N Area facility boundary in the Pen Branch watershed (Figure 2). The Ford Building (690-N) was a one-story metal frame structure on a concrete pad covering 900 square meters (m^2) [9,700 square feet {ft^2}]. Ancillary equipment and other areas are included in the Ford Building subunit, including the remnants of a 13.8 kV Substation (652-44N), a Fuel Oil Tank Containment Dike, a shielding remnant area, and the Excess Equipment Yard (745-N) (Figure 4).

The Ford Building was constructed in the 1950s to test Ford Company-manufactured motor control packages for control rod drive mechanisms before they were installed in the SRS reactors. The primary area of the building consisted of a machine shop with offices, storage rooms, restrooms, and a service area.

In 2021, the decommissioning of the Ford Building (690-N) was completed and documented in the *Decommissioning Project Final Report Building 690-N, Process Heat Exchanger Repair Facility* (SRNS 2020). The building structure was demolished to its slab, and an engineered concrete cover system was installed over the entire concrete remnant slab area extending out 0.3 m (1 ft) from the building edge. The 15-centimeter (cm) (6-inch [in.]) concrete cover was designed to be compliant with polychlorinated biphenyl (PCB) capping requirements found in Toxic Substances Control Act (40 Code of Federal Regulations [CFR] 761.61[a][7]). The concrete cover

system serves to break the direct exposure pathway to PCBs and cesium-137 (Cs-137) in the remnant slab. The concrete cover system also achieves the substantive requirements under 40 CFR 761.62(c) for risk-based disposal of bulk product waste.

2.2 Nature and Extent of Contamination

Results of the contaminant migration evaluation indicate the contaminants at the ECODS N-1, CSSLP, and Ford Building OU are not a potential source for groundwater contamination (SRNS 2021).

The primary contaminant associated with the ECODS N-1 subunit is the following:

- There were no refined constituents of concern identified at the ECODS N-1 subunit. However, asbestos was identified in subsurface soils that poses a risk for human exposure if disturbance of the soils occurs.

The primary contaminant associated with the CSSLP is the following:

- Arsenic is present in surface soil (0 to 0.3 m [0 to 1 ft]) (exposure point concentration [EPC] = 16.4 mg/kg) exceeding 1E-06 risk level for the resident (risk = 2.4E-05) and industrial worker (risk = 5.5E-06) scenarios; and

- Arsenic is present in surface sediment (0 to 0.3 m [0 to 1 ft]) (EPC = 8.27 mg/kg) exceeding 1E-06 risk level for the resident (risk = 1.2E-05) and industrial worker (risk = 2.8E-06) scenarios.

The primary contaminants associated with the Ford Building Subunit are the following:

- Ford Building (690-N) slab – Prior to placement of a concrete cover with minimum 0.46 m (18 in.) gravel underlay in 2021, PCBs (Aroclor 1254 and 1260) and Cs-137 (+D) were present at the Ford Building remnant slab exceeding 1E-06 risk level for the resident and industrial worker scenarios; and

- Cobalt-60 is present in surface soil (0 to 1 ft) (EPC = 0.545 pCi/g) exceeding the 1E-06 level for the resident scenario (risk = 5.5E-05) and industrial worker (risk = 1.1E-05).

2.3 Remedial Actions Selected

As stated in the ROD for the ECODS N-1, CSSLP, and Ford Building OU (SRNS 2022):

The selected remedy for the ECODS N-1 subunit is LUCs to prevent human exposure to asbestos that is present in subsurface soils. This remedy was selected at the ECODS N-1 subunit due to the overall protection and effectiveness of the remedy.

The selected remedy for CSSLP subunit is excavation (hot spot removal) and disposal, which supports unrestricted land use and will not require LUCs, annual site inspections, or five-year remedy reviews. This remedy will eliminate exposure of contaminated media to human receptors. This remedy includes excavating arsenic-contaminated media (i.e., surface soil and sediment) exceeding the cleanup level (8.2 mg/kg) down to 1 ft below ground surface, disposing of the contaminated media at an approved facility, and backfilling with clean soil to grade.

The selected remedy for the Ford Building subunit is LUCs to prevent human exposure to Cs-137 and PCBs on the Ford Building remnant concrete slab and Co-60 in surface soils underlying a portion of the gravel apron surrounding the slab. This remedy was selected at the Ford Building subunit due to the short half-life (~5.3 years) of Co-60. The risks to the industrial worker will be below 1E-06 within 20 years, thereby eliminating any long-term requirements other than LUCs for the concrete cover that currently exists over the remnant slab.

The LUCs established in this LUCIP for the ECODS N-1 subunit and the Ford Building subunit do not apply to the CSSLP subunit because removal and disposal of arsenic-contaminated surface soil and sediment at the CSSLP subunit are expected to meet the cleanup levels for unrestricted land use. LUCs for the ECODS N-1 subunit and Ford Building subunit will be in effect until concentrations of hazardous substances are at levels that allow for unrestricted use and exposure and include the following:

- Warning signs posted at the ECODS N-1 and Ford Building subunits around the waste unit boundaries/areas;

- Maintenance of the signage and maintenance of the concrete cover over the Ford Building remnant slab;

- Administrative/Worker Access Controls: Includes SRS administrative controls and land use restrictions for onsite workers as implemented under the Site Use/Site Clearance Program and other controls that are in place to ensure worker safety, including work controls/work packages that include worker training, health and safety requirements, and pre-work briefings; and

- Engineering controls: SRS access controls that limit and inform SRS workers and inadvertent trespassers as described in the 2023 Resource Conservation and Recovery Act (RCRA) Permit Renewal Application, Volume I, Section F.1, which describes the security procedures and equipment, 24-hour surveillance system, artificial or natural barriers, control entry systems, and warning signs in place at the SRS boundary.

This remedy was selected because it meets the remedial action objectives (RAOs), provides overall protection of human health and the environment, complies with Applicable or Relevant and Appropriate Requirements, and is cost-effective. The remedy provides a high level of long-term protection to the radioactive and hazardous constituents that remain in place.

According to the *Savannah River Site Future Use Project Report* (USDOE 1996), residential use of SRS land is prohibited.

3.0 LAND USE CONTROL OBJECTIVES

The following LUC objectives have been identified for the ECODS N-1 and Ford Building subunits to ensure protectiveness of the remedy described above.

ECODS N-1 subunit

- Prevent contact, removal, or excavation of soil within the ECODS N-1 subunit; and

- Prohibit the development and use of property for residential housing, elementary/secondary schools, childcare facilities, and playgrounds.

Ford Building subunit

- Prevent contact, removal, or excavation of contaminants in surface soils and at the Ford Building (690-N) remnant concrete slab; and

- Prohibit the development and use of property for residential housing, elementary/secondary schools, childcare facilities, and playgrounds.

Current access controls and land transfer requirements needed to maintain the future land use are described in the following sections of this LUCIP.

4.0 IMPLEMENTATION OF LAND USE CONTROLS

This section describes the remedial actions prescribed by the ROD to achieve the LUC objectives stated in Section 3.0. A summary of the types of LUCs is provided in Table 1. USDOE is responsible for implementing, maintaining, reporting on and enforcing the LUCs. The LUCIP will become enforceable and will be implemented when approved by USEPA and SCDHEC following the completion of the remedial actions prescribed by the ROD. USDOE shall notify USEPA and SCDHEC 60 days in advance of any proposed land use changes that are inconsistent with LUC objectives or the selected remedy.

The affected area will be maintained as an industrial use area by implementation of the property record notices and restrictions (Section 4.1) and the LUC boundary map (Section 4.2). The Site Use Program (Section 4.3) will be implemented to prevent onsite worker exposure to contamination left in place. Other existing measures (i.e., Site Clearance Program, worker training,

health and safety requirements, work controls) will also be used to ensure worker safety. Physical access controls (Section 4.4) are implemented at the SRS boundary to control and restrict public and trespasser access.

Access control warning signs will be maintained to alert onsite workers to the presence of hazardous substances. The signs will also convey the restrictions of unauthorized personnel. Access control warning signs will be placed at the approximate locations shown in Figures 3 and 4 and will be maintained to prevent unknowing entry and unrestricted use.

4.1 Property Record Notices and Restrictions

In the long term, if the property, or any portion thereof, is ever transferred from USDOE, the U.S. Government and/or USDOE will take those actions necessary pursuant to Section 120(h)(1) of CERCLA. Those actions will include in any contract, deed, or other transfer document, notice of the type and quantity of any hazardous substances that were known to have been stored (for more than one year), released, or disposed of on the property. The notice will also include the time at which the storage, release, or disposal took place to the extent such information is available.

In addition, if the property, or any portion thereof, is ever transferred by deed, the U.S. Government will also satisfy the requirements of CERCLA 120(h)(3). The requirements include: a description of the remedial action taken, a covenant, and an access class. These requirements are also consistent with the intent of the RCRA deed notification requirements at final closure of a RCRA facility if contamination will remain at the unit.

LUCs will be implemented through the following:

- The contract, deed, or other transfer document shall also include restrictions precluding residential use of the property. However, the need for these restrictions may be reevaluated at the time of transfer in the event that exposure assumptions differ and/or the residual contamination no longer poses an unacceptable risk under residential use. Any reevaluation of the LUCs will be done through an amended ROD with USEPA and SCDHEC review and approval; and

- In addition, if the site is ever transferred to nonfederal ownership, a survey plat of the OU will be prepared, certified by a professional land surveyor, and recorded with the appropriate county recording agency.

In the event of a property lease or interagency agreement, the equivalent restrictions will be implemented as required by CERCLA Section 120(h).

USDOE shall provide USEPA and SCDHEC at least a six-month notice prior to transfer or sale of property subject to LUCs to ensure that USEPA and SCDHEC can be involved in discussions to ensure that appropriate provisions are included in the transfer documents to maintain effective LUCs. If it is not possible for USDOE to notify USEPA and SCDHEC at least six months prior to the transfer or sale, then the facility will notify USEPA and SCDHEC as soon as possible but no later than 60 days prior to the transfer or sale of any property subject to LUCs. In addition to the land transfer notice and discussion provisions above, USDOE further agrees to provide USEPA and SCDHEC with similar notice within the same time frames as to federal-to-federal transfer of property.

4.2 LUC Boundary Maps

This ECODS N-1, CSSLP, and Ford Building OU LUCIP identifies the proposed areas under land use restrictions in Figures 3 and 4. Following field implementation of the remedial action, a final (as-built) survey will be developed. This survey will include the boundary coordinates for the area subject to land use restrictions and general locations of access control warning signs. The final as-built survey of the ECODS N-1 and Ford Building subunits will be submitted to USEPA and SCDHEC in the final action ECODS N-1, CSSLP, and Ford Building OU Post-Construction Report (PCR).

In addition, if the site is ever transferred to non-federal ownership, a certified survey plat of the OU will be prepared at or near the time of conveyance to support the ECODS N-1, CSSLP, and Ford Building OU LUCIP required restrictive covenants on land use and will be recorded with the appropriate county recording agency.

4.3 Site Use Program

Under USDOE Order 430.1A, *Life Cycle Management* (USDOE 1998), SRS is required to implement an asset management program for the use, maintenance, and disposal of physical assets, including real estate. SRS complies with this USDOE Order through the Site Use Program which is administered by Site Development Control (SDC) in accordance with SRS Manual 1D, *Site Infrastructure and Services Manual*, Procedure 3.02, "Site Real Property Configuration Control" (SRS 2006). Use of all lands and waters on the SRS are coordinated via the Site Use Program. No use of land (i.e., excavation or any other land use) shall be undertaken without prior approval by USDOE and documented by a Site Use Permit.

SRS identifies all buildings, facilities, and FFA waste units on SRS site development maps that are maintained by SDC in accordance with SRS Manual 1D. If LUCs are required for an FFA waste unit, the unit-specific LUC boundaries are identified on the SRS site development maps. SDC must verify that any proposed work to be performed on a site is sanctioned by a Site Use Permit and verify that the proposed activity does not conflict with any previously approved land use.

In addition to the management of the use of SRS lands and waters through the Site Use Program, the SDC also administers the Site Clearance Program to control the construction, alteration, or demolition activities at SRS. Before any work that adds or modifies features or facilities portrayed on the SRS site development maps is conducted, a Site Clearance Permit is required. USDOE approval of the intended land via a Site Use Permit must be verified before a Site Clearance Permit is issued. If a Site Clearance request potentially impacts a FFA waste unit, the Site Clearance Request Form is sent to the appropriate FFA reviewer for approval. The FFA reviewer will evaluate the proposed activity to identify any conflicts with the waste unit and to verify that waste unit-specific LUCs are not compromised. The roles and responsibilities of the individuals responsible for review and approval of Site Use and Site Clearance permits are detailed in SRS 1D, Procedure 3.02. All employees, contractors, and visitors at SRS are required to adhere to the Site Use Program and the Site Clearance Program.

USDOE will notify USEPA and SCDHEC in advance of any change to any internal procedure, including the Site Use Program, which would affect implementing or maintaining the LUCs. Approval by USEPA and SCDHEC is required for any modification or termination of the LUCs and implementation actions, and USDOE must obtain prior approval from USEPA and SCDHEC before taking any anticipated action that may disrupt the effectiveness of the LUCs or alter or negate the need for LUCs. The Site Use Permit and site development maps must be amended when the geographic configuration or buffer zone used to establish the permit boundary changes or there is a change to the land use. The processes are controlled within the SRS Quality Assurance (QA) Program in accordance with SRS 1Q Manual, *Quality Assurance* (SRS 2007). The SRS QA program governs all SRS activities.

4.4 Physical Access Controls

There are no physical access controls required at the ECODS N-1, CSSLP and Ford Building OU; however, physical access controls are provided at the SRS boundary as mentioned in Table 1, Item 5.

4.5 Warning Signs

To prevent unknowing entry and to ensure that unrestricted use of the waste unit does not occur while the unit is under ownership of USDOE, access control warning signs, as worded in Appendix A, will be posted at the unit. A total of five signs at ECODS N-1 subunit and four signs at the Ford Building subunit will be approximately located as depicted in Figures 3 and 4. The final placement of the signage will be documented in the final PCR. The signs will be legible from a distance of at least 7.6 m (25 ft). Custodial responsibilities for maintenance and inspection will be performed by the SRS Post-Closure Maintenance Group.

4.6 Other Access Controls and Security/Surveillance Measures

While under the ownership of USDOE, access control of the entire SRS will be maintained in accordance with the 2023 RCRA Part B Permit Renewal Application, Volume I, Section F.1. This section describes the 24-hour surveillance system (R.61-79.264.14(b)(1)), artificial or natural

barriers (R.61-79.264.14(b)(2)(i)), control entry systems (R.61-79.264.14(b)(2)(ii)), and access control warning signs (R.61-79.264.14(c)) in place at the SRS boundary to comply with the security requirements for a RCRA-permitted facility.

4.7 Field Inspection and Maintenance for Land Use Controls

After remediation, only inspection and maintenance activities will be required by this remedial action. Inspections will be performed annually per the Field Inspection Checklist in Appendix B. Additional inspections may be necessary in the event of unusual weather or any other condition warranting inspection.

Any activity that is inconsistent with the LUC objectives or use restrictions, or any other action that may interfere with the effectiveness of the LUCs, will be addressed by USDOE as soon as practicable, but in no case will the process be initiated later than 10 business days after USDOE becomes aware of the breach. USDOE will notify USEPA and SCDHEC as soon as practicable but no longer than 10 business days after discovery of any activity that is inconsistent with the LUC objectives or use restrictions, or any other action that may interfere with the effectiveness of the LUCs. USDOE will notify USEPA and SCDHEC regarding how USDOE has addressed or will address the breach within 10 business days of sending USEPA and SCDHEC notification of the breach.

The FFA Annual Progress Report, submitted to the regulatory agencies by USDOE, will provide the status of the LUCs and describe how any LUC deficiencies or inconsistent uses have been addressed. In the event of property transfer or lease, the FFA Annual Report will cite findings on the following: whether the use restrictions and controls referenced above were communicated in the deed(s) or lease restrictions; whether property use conforms with the deed or lease restrictions and controls; and whether the owners and state/local agencies have been notified regarding the deed or lease restrictions and controls. The FFA Annual Progress Report(s) will be used in the preparation of the Five-Year Remedy Review Report.

All other routine maintenance activities will be documented and maintained in files subject to USEPA and SCDHEC review and audit. A copy of the completed inspection form is maintained

in SRS records. The LUCs shall be maintained until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use.

The waste unit inspectors are to be trained in Hazardous Waste Operations and Emergency Response (HAZWOPER), RCRA Well Inspections, RCRA Waste Unit Inspections, Radiological Worker Training, etc., as applicable for the specific inspection. They will also be trained based on the individual requirements of the regulatory approved closure documents for each waste unit. In addition, the inspectors are to attend yearly refresher courses. Over the years, different personnel may conduct the inspections and maintenance activities.

This unit-specific LUCIP, including the checklist (Appendix B), will be appended to the SRS LUCAP upon final regulatory approval. After completion of the final PCR, the preliminary checklist in the LUCAP will be replaced with the final approved checklist.

5.0 REFERENCES

FFA, 1993. *Federal Facility Agreement for the Savannah River Site,* Administrative Docket No. 89-05-FF (Effective Date: August 16, 1993)

SRNS, 2020. *Decommissioning Project Final Report Building 690-N, Process Heat Exchanger Repair Facility*, V-PCOR-N-00025, Revision 0, May 18, 2021, Savannah River Nuclear Solutions, LLC, Savannah River Site, Aiken, SC

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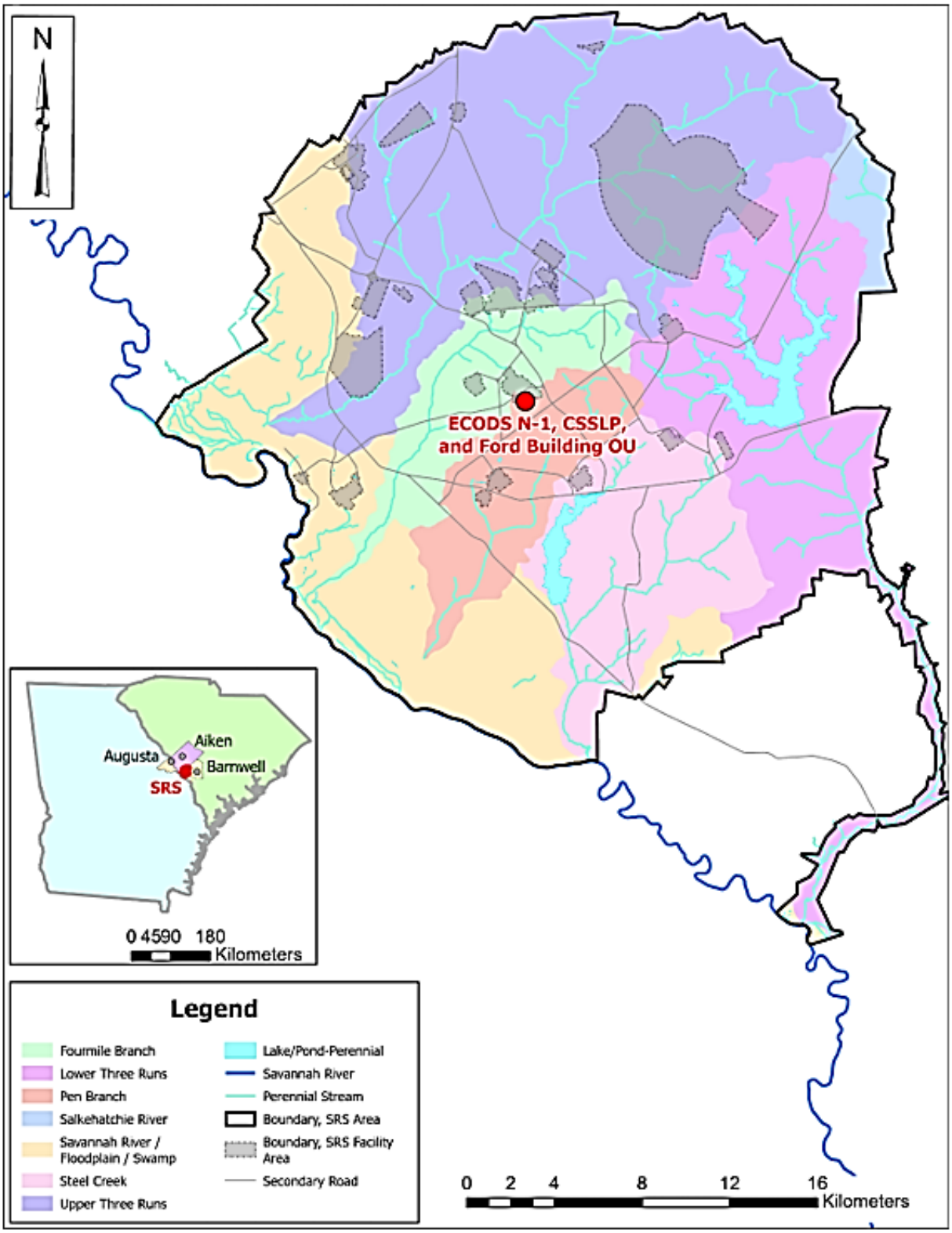

Figure 1. Location of the ECODS N-1, CSSLP, and Ford Building OU at the Savannah River Site

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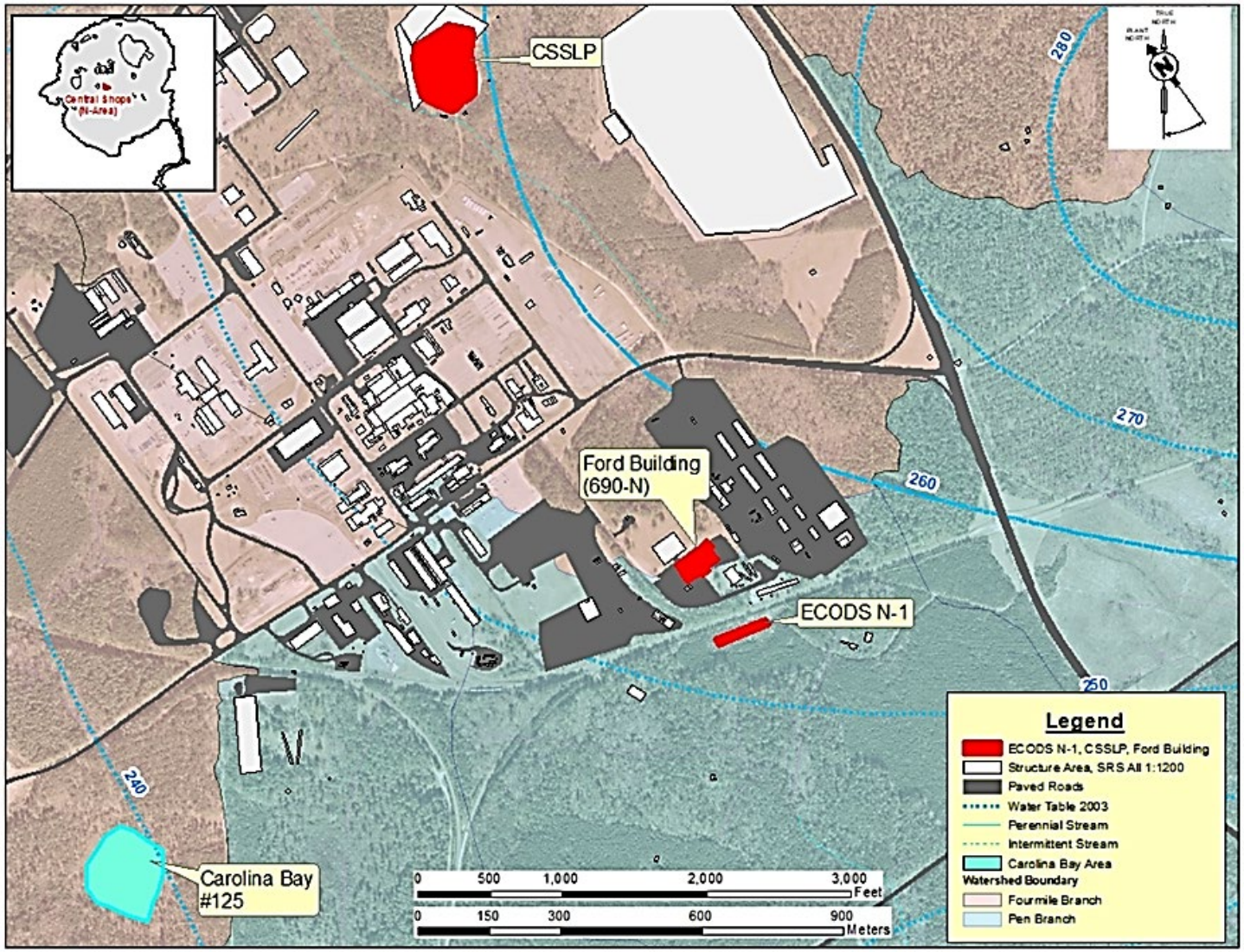


Figure 2. Location of the ECODS N-1, CSSLP, and Ford Building OU (N Area)

Figure 3. ECODS N-1 Approximate Area of Land Use Control Boundary

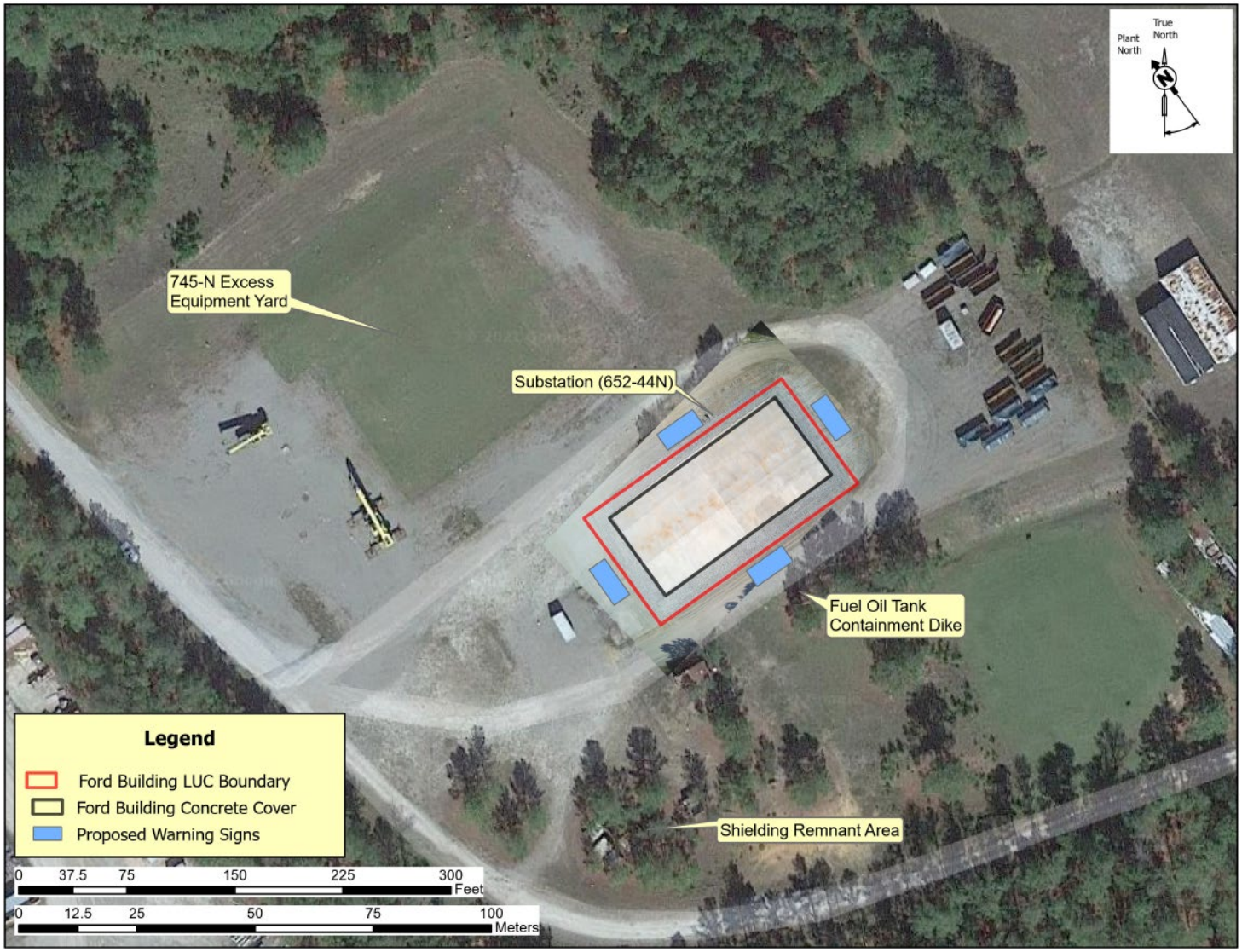
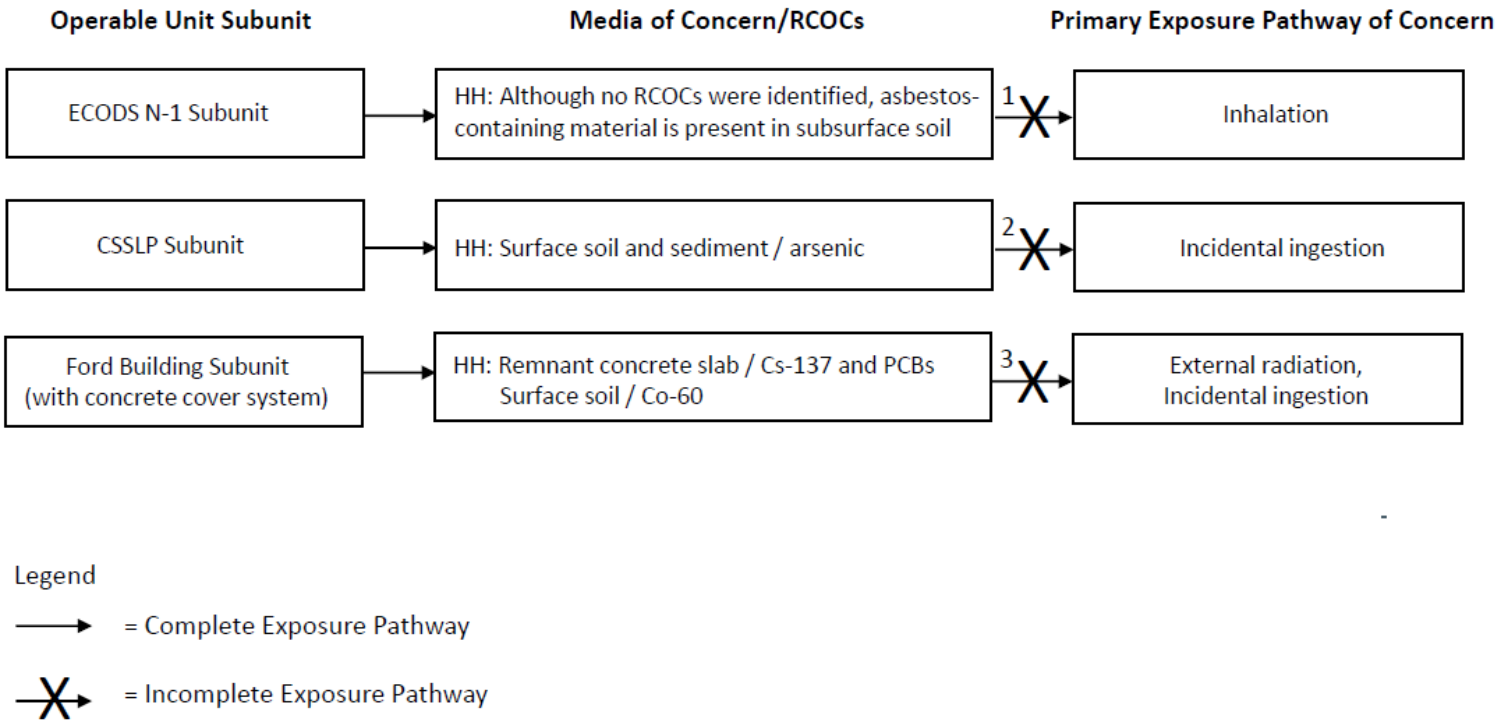


Figure 4. Ford Building Approximate Area of Land Use Control Boundary



HH – Human health

1. Alternative A-2, LUCs - prevents exposure to asbestos containing materials buried at depth.
2. Alternative B-4, Excavation (Hot Spot Removal) and Disposal - prevents exposure to arsenic in surface soil and sediment; qualifies for unrestricted land use (no LUCs)
3. Alternative C-2, LUCs - prevents exposure to Cs-137 and PCBs on remnant concrete slab and Co-60 in surface soil

Figure 5. ECODS N-1, CSSLP, and Ford Building OU Generic Conceptual Site Model after Completion of Final Remedial Action

Table 1. Land Use Controls for ECODS N-1, CSSLP, and Ford Building

Type of Control	Purpose of Control	Duration	Implementation	Affected Areas[a]
1. Property Record Notices[b]	Provide notice to anyone searching records about the existence and location of contaminated areas.	Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use.	Notice recorded by USDOE in accordance with state laws at County Register of Deeds office if the property or any portion thereof is ever transferred to non-federal ownership.	ECODS N-1 and Ford Building subunits identified in this LUCIP where hazardous substances are left in place at levels requiring land use restrictions
2. Property record restrictions[c]: A. Land Use	Restrict use of property by imposing limitations.	Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use.	Drafted and implemented by USDOE upon any transfer of affected areas. Recorded by USDOE in accordance with state law at County Register of Deeds office.	ECODS N-1 and Ford Building subunits as identified in this LUCIP where hazardous substances are left in place at levels requiring land use restrictions.
3. Other Notices[d]	Provide notice to city &/or county about the existence and location of waste disposal and residual contamination areas for zoning/planning purposes.	Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use.	Notice recorded by USDOE in accordance with state laws at County Register of Deeds office if the property or any portion thereof is ever transferred to non-federal ownership.	ECODS N-1 and Ford Building subunits as identified in this LUCIP where hazardous substances are left in place at levels requiring land use restrictions.
4. Site Use Program[e]	Provide notice to worker/developer (i.e., permit requestor) on extent of contamination and prohibit or limit excavation/penetration activity.	As long as property remains under USDOE control	Implemented by USDOE and site contractors Initiated by permit request	ECODS N-1 and Ford Building subunits as identified in this LUCIP where hazardous substances are left in place at levels requiring land use restrictions.
5. Physical Access Controls[f] (e.g., fences, gates, portals)	Control and restrict access to workers and the public to prevent unauthorized access.	Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use.	Controls maintained by USDOE.	Security is provided at site boundaries in accordance with SRS procedures. Signs will be placed at the perimeter of the ECODS N-1 and Ford Building subunits where hazardous substances are left in place at levels requiring land use restrictions.

Table 1. Land Use Controls for the ECODS N-1, CSSLP, and Ford Building OU (continued/end)

Type of Control	Purpose of Control	Duration	Implementation	Affected Areas[a]
6. Warning Signs[g]	Provide notice or warning to prevent unauthorized uses.	Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use.	Signage maintained by USDOE.	Warning signs will be posted in accordance with applicable site procedures and will be placed at perimeter of the ECODS N-1 and Ford Building subunits where hazardous substances are left in place at levels requiring land use restrictions.
7. Security Surveillance Measures	Control and monitor access by workers/public.	Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use.	Established and maintained by USDOE. Necessity of patrols evaluated upon completion of remedial actions or property transfer.	Patrol of waste management areas identified in this ROD, as necessary

a - Affected areas – Specific locations for the ECODS N-1 and Ford Building subunits will be identified in the OU-specific PCR or subsequent post-ROD documents. Unit boundaries are shown in Figure 3 for the ECODS N-1 subunit and Figure 4 for the Ford Building subunit.
b - Property Record Notices – Refers to any non-enforceable, purely informational document recorded along with the original property acquisition records of USDOE and its predecessor agencies that alerts anyone searching property records to important information about residual contamination, waste disposal areas in the property.
c - Property Record Restrictions – Includes conditions and/or covenants that restrict or prohibit certain uses of real property and are recorded along with original property acquisition records of USDOE and its predecessor agencies.
d - Other Notices – Includes information on the location of waste disposal areas and residual contamination depicted on a survey plat, which is provided to a zoning authority (i.e., city planning commission) for consideration in appropriate zoning decisions for non-USDOE property.
e - Site Use Program – Refers to the internal USDOE/USDOE contractor administrative program(s) that requires the permit requestor to obtain authorization, usually in the form of a permit, before beginning any excavation/penetration activity (e.g., well drilling) for the purpose of ensuring that the proposed activity will not affect underground utilities/structures, or in the case contaminated soil or groundwater, will not disturb the affected areas without the appropriate precautions and safeguards.
f - Physical Access Controls – Physical barriers or restrictions to entry.
g - Signs – Posted command, warning or direction.

APPENDIX A

ACCESS CONTROL WARNING SIGNS

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Figure A-1. ***EXAMPLE* — Access Control Warning Sign**

Figure A-2. ***EXAMPLE* — Access Control Warning Sign**

APPENDIX B

FIELD INSPECTION CHECKLIST

ANNUAL FIELD INSPECTION CHECKLIST
FOR ECODS N-1 SUBUNIT

☐ **SCHEDULED** ☐ **UNSCHEDULED**

A = Satisfactory **X** = Unsatisfactory (Explanation required)	**A** or **X**	Observation of Corrective Action Taken
1. VERIFY that the roads are accessible for authorized maintenance and inspections.		
2. VERIFY that the waste unit signs (5) are in acceptable condition, have the correct information, and are legible from a distance of 25 feet.		
3. VERIFY that there are no unauthorized excavation, digging, or construction activities within the LUC Boundaries.		

Inspected by:

_____/_____ Date:_____
(Print Name) (Signature)

Post-Closure Manager:

_____/_____ Date:_____
(Print Name) (Signature)

CAUTION: The inspector shall notify the Post-Closure Manager (PCM) and Environmental Compliance Authority (ECA) **IMMEDIATELY** if there has been a breach or compromise of the land use controls of this waste unit. The notification shall be in accordance with SRS post-closure inspection procedures.

ANNUAL FIELD INSPECTION CHECKLIST FOR FORD BUILDING SUBUNIT (690-N)

☐ **SCHEDULED** ☐ **UNSCHEDULED**

A = Satisfactory **X** = Unsatisfactory (Explanation required)	**A** or **X**	Observation of Corrective Action Taken
1. VERIFY area is accessible for authorized maintenance and inspections.		
2. VERIFY waste unit warning signs (4) are in acceptable condition, have correct information, and are legible from a distance of 25 feet.		
3. VERIFY concrete slab does not have cracks larger than 0.5 mm wide and are not projected through the slab (more than 15 centimeter deep).		
4. VERIFY excessive deterioration of concrete cover has not occurred and cover is free of vegetation.		
5. VERIFY signs of erosion are not present.		
6. VERIFY that there are no unauthorized excavations, digging, or construction activities within the Ford Building Land Use Control boundaries.		

Inspected by:

_____/_____ Date:_____
(Print Name) (Signature)

Post-Closure Manager:

_____/_____ Date:_____
(Print Name) (Signature)

CAUTION: The inspector shall notify the Post-Closure Manager (PCM) and Environmental Compliance Authority (ECA) **IMMEDIATELY** if there has been a breach or compromise of the land use controls of this waste unit. The notification shall be in accordance with SRS post-closure inspection procedures.

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