



# **Scoping Summary for the Automotive Repair Shop (716-A) and Paint Shop Building (725-A) Operable Unit (U)**

**(RI Work Plan Characterization)**

**SEMS Number: 62**

**SRNS-RP-2023-00820**

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## 1.0 PROJECT PHASE AND STATUS

This scoping summary supports Core Team (i.e., representatives from the United States Department of Energy [USDOE], United States Environmental Protection Agency [USEPA], and South Carolina Department of Health and Environmental Control [SCDHEC]) discussion for the development of the Remedial Investigation (RI) Work Plan for the Automotive Repair Shop (716-A) and Paint Shop Building (725-A) Operable Unit (OU). The decommissioned facility remnants in this OU are currently listed in Federal Facility Agreement (FFA) Appendix C.4, D&D Facilities (or Remnants) That May Warrant Response Action. The objectives of the Work Plan scoping meeting are to reach Core Team understanding of OU conditions, nature and extent of contamination based on available data, and identify potential data gaps and uncertainties that could impact the scope of the RI characterization. Core Team agreements will support the development of a Work Plan characterization that includes a Sampling and Analysis Plan (SAP). The RI Work Plan Revision 0 is scheduled for submittal on or before January 25, 2024. The Automotive Repair Shop (716-A) and Paint Shop Building (725-A) OU is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-only unit.

## 2.0 A-AREA FACILITIES/REMNANTS HISTORY AND BACKGROUND

The A Area, which is part of the larger A/M Area in the northwestern portion of Savannah River Site (SRS) (Figure 1), previously served as the main administrative area for the Site and includes several Resource Conservation and Recovery Act (RCRA)/ CERCLA units. Maintenance facilities such as Building 716-A and Building 725-A were also housed within A Area (Figure 2). Both buildings were decommissioned using the Deactivation and Decommissioning (D&D) Integrated Sampling Model (ISM) in 2004-2005 timeframe.

The risk information presented in the Decommissioning Project Final Reports (DPFRs) for these two facilities followed protocols that were developed by the Savannah River National Laboratory (SRNL) in the 2004-2005 timeframe. Therefore, the risks presented in historical D&D documents (i.e., comparison to SRNL Derived Concentration Guideline Levels [DCGLs]) do not align with the current methodology for

evaluating human health risk. For this reason, the risk estimates were recalculated based on current SRS Environmental Compliance & Area Completion Projects (EC&ACP) protocols (SRNS 2023) and are presented in this scoping summary using the *USEPA Regional Screening Level* table to obtain the risk-based thresholds used in the evaluation. Per SRS protocols, regional screening levels (RSLs) for soil media are multiplied by ten (10x) to obtain thresholds for concrete media. This step acknowledges that the exposure assumptions for competent, hardened concrete are different from (i.e., less than) the exposure assumptions for more friable soil media. As defined by CERCLA, a risk of less than 1.0E-06 and a Hazard Quotient (HQ) of less than 1 were used as the maximum acceptable risk thresholds for the residential and industrial worker risk scenarios.

### **3.0 LAND USE**

Building 716-A and Building 725-A are located in an area designated for industrial use as defined by the SRS Land Use Control Assurance Plan. No current or projected future development of the OU is planned. Groundwater is not part of the OU and will be addressed under the RCRA corrective action program defined in the SRS RCRA Permit Renewal for the M-Area and Metallurgical Laboratory Hazardous Waste Management Facilities.

### **4.0 AUTOMOTIVE REPAIR SHOP (716-A)**

#### ***4.1 Automotive Repair Shop (716-A) History and Background***

Building 716-A was located in A Area at the SRS (Figure 3). The single-story structure was constructed on a concrete slab and had an area of 42,014 square feet (ft<sup>2</sup>) under roof. The structure footprint is approximately 180 feet (ft) by 360 ft. The structure was erected and occupied in 1953. The facility was constructed of a structural steel frame with the exterior walls enclosed in asbestos cement board (transite). The roof consisted of a single ply conventional membrane that was loose laid and covered with stone ballast. Building 716-

A was used as an automotive repair facility containing service bays with offices, related storage areas, mechanical, and electrical rooms. This facility also contained many vehicle lifting systems, battery charging and storage room, and brake repair area. Visual evidence indicated that a concrete pad, located on the southeast side of Building 716-A, was the location of an outside underground waste oil storage tank, which was removed in the early 1990's. The waste oil storage tank was replaced by a new above ground system. An ancillary structure--a firewater valve house--was located on the west side of Building 716-A.

The *Facility Decommissioning Evaluation Automotive Repair Shop, 716-A* (WSRC 2005a) categorized the building as an "Other Industrial" Hazard Category facility and identified the ISM as the appropriate decommissioning model for this potentially contaminated facility. Characterization was accomplished using a combination of process knowledge/historical release information, verification walkdowns and sampling as appropriate. A review of the Occurrence Reporting and Processing System/Site Item Reportability Issue Management (ORPS/SIRIM) database from 1993 to 2005 indicated no evidence of any spills to the environment. However, motor oil stains were found in the maintenance areas, lubrication pit (Room 103) (Figure 4), side trench, hydraulic lifts, cylinders, and narrow trenches. Fluid/oil stains were removed during decommissioning and the trenches and sumps were sampled to verify contaminants were less than the applicable DCGLs. Based on process knowledge, chemical operations took place only in the spray paint room (Figure 5). Therefore, the post-decommissioning final verification survey would be restricted to the spray paint room. Contaminants of concern (COCs) included lead, chromium, and volatile organic compounds (VOCs).

The *Decommissioning Project Final Report 716-A, Automotive Repair Shop* (WSRC 2005b) documents the risk assessment that was conducted on the concrete slab of Building 716-A. Potential risks were estimated for an industrial worker exposed to residual contamination. The structure was a non-radiological building. Therefore, radiological risks were not considered. For chemical contaminants, the maximum potential cancer risk to an industrial worker exposed to the general slab areas was estimated to be 4.36E-07. The maximum non-cancer HQ for the general slab areas was estimated to be 4.89E-02. A vadose zone contamination fate and transport model (Vadose Zone Contaminant Migration Model – Multi-Layered [VZCOMML]) was performed for Building 716-A. The model identified specific contaminants that could

impact the groundwater in A Area. As documented in the DPFR, a comparison of the final verification sample contamination levels with the associated VZCOMML DCGLs demonstrated that the residual contamination on the 716-A slab were below threshold levels that could impact the groundwater.

The DPFR concluded the building structure decommissioning activities have been completed, including waste disposal in accordance with federal and state regulations. The building structure was demolished to the foundation. The clean concrete slab remains on its original footprint. The concrete slab remains in place and penetrations greater than 2 inches in diameter were grouted, including all pits associated with the automotive hydraulic lift systems. Before and after photographs of the decommissioning activities are captured in Figures 6 and 7, respectively. The DPFR concluded that the remaining structure was free of hazards, both physical and chemical, and therefore, warrants no further action. No long-term stewardship activities were identified for the structure because it posed no threat to human health or the environment.

Comments received by the USEPA and the SCDHEC on the Facility Decommissioning Evaluation (FDE) and DPFR requested SRS to conduct soil sampling for target analyte list/target compound list (TAL/TCL) constituents underneath the concrete slab at the 103 Lubrication Pit area to determine whether there has been a release to the environment. Because the soil beneath the Building 716-A slab was outside of the scope (i.e., physical boundary) of the facility decommissioning project, Building 716-A was transferred to FFA Appendix C.4, D&D Facilities (or Remnants) That May Warrant Response Action, for further evaluation. Sampling beneath the concrete slab at the 103 Lubrication Pit will be addressed in the RI Work Plan. In addition, a comment received from the USEPA on the FDE requested that all drain lines and/or sewer lines for Building 716-A be referred to the A Area Completion program for further investigation. Sampling beneath the drain lines and/or sewer lines at Building 716-A will be addressed in this RI Work Plan and not deferred to the A-Area OU.

#### *4.2 Automotive Repair Shop (716-A) Preliminary Screening*

The final verification survey included 16 sample locations, which were composited in 4 sets of 4 samples and were obtained from the Spray Paint Room exposure area for RCRA metals analysis (arsenic, barium, cadmium, chromium, lead, mercury [elemental], mercury [compounds], selenium, and silver) (Figure 8). Nine single samples were taken for VOC analysis in the exposure area (Figure 9). The sample locations depicted on Figures 8 and 9 were all measured in feet from the southwest corner of the Spray Paint Room or point (0, 0). On Figure 8, each color represents the set of four samples used for each composite sample.

The maximum detected concentration of each analyte in the Spray Paint Room exposure area (Appendix B of the DPFR) was used to recalculate human health risk using current EC&ACP protocols (Table 1). The residential scenario had a hazard index (HI) = 0.017 and total cumulative risk (TCR) = 4.1E-07, and the industrial worker scenario had HI = 0.0029 and TCR = 9.4E-08. There are no problems warranting action for the remnant slab from a human health risk perspective.

A quantitative ecological risk assessment is not warranted. The concrete slab does not provide any habitat and a survey of the surrounding area indicates the physical setting does not provide adequate habitat for community level impacts to wildlife receptors since it is very small in size and located in an industrial setting. There are no problems warranting action from an ecological risk perspective.

Based on comments received on the DPFR, additional sampling and evaluation is needed for soils beneath the concrete slab at the 103 Lubrication Pit area to determine whether there has been a release to the environment.

Problem(s) Warranting Action	Remedial Action Objectives	Scope of Problem(s)	Likely Response Actions
<ul style="list-style-type: none"> <li>Potential contaminants (metals and/or solvents) in soil beneath the concrete slab at the 103 Lubrication Pit Area and storm sewer lines may leach to groundwater at levels that exceed groundwater protection standards.</li> </ul>	<ul style="list-style-type: none"> <li>Prevent migration of potential contaminants from soils beneath the concrete slab to groundwater at levels that exceed the maximum contaminant level.</li> </ul>	<ul style="list-style-type: none"> <li>The 103 Lubrication Pit is 2 ft. 6 in. wide by 40 ft long by 4 ft deep.</li> <li>There is approximately 950 ft. of drain lines and/or storm sewer lines extending beneath the slab of Building 716-A.</li> </ul>	<ul style="list-style-type: none"> <li>No Action</li> <li>Cap/LUCs</li> <li>Excavate and off-SRS disposal</li> <li>Soil Vapor Extraction</li> </ul>
<b>Uncertainties</b>			
<ul style="list-style-type: none"> <li>It is uncertain if contamination is present in soils beneath the 103 Lubrication Pit and storm sewer line at levels that constitute a contaminant migration problem warranting action. This uncertainty impacts the nature of the problems warranting action and likely response actions and will be managed by collecting soil samples beneath the concrete slab and conducting contaminant migration analysis for the subsurface soils to identify potential contaminant migration COCs (Figure 16).</li> </ul>			

## 5.0 PAINT SHOP BUILDING (725-A)

### 5.1 Paint Shop Building (725-A) History and Background

Building 725-A was located in A Area at SRS (Figure 10). Originally constructed in 1953 and subsequently added to in 1979, the facility was a single-story structure on a reinforced concrete slab foundation. The building’s overall dimensions were 40 ft by 72 ft. The original building was 41 ft by 40 ft by 18 ft high at the ceiling peak and 10 ft high at the eaves. It was a metal frame structure, with asbestos cement board (transite) exterior walls, lead fasteners, and a corrugated asbestos roof. A steel-sided paint spray booth with a fire curtain and exhaust fan were located in this part of the structure. A 4 ft by 7 ft by 2 ft 8 inches (in) deep pit for a flash tank was located in the janitor’s closet in this part of the structure. The 1979 expansion added 31 ft to the north of the original facility. The addition is a metal frame structure with corrugated metal exterior walls and roof. There was a 26 ft by 40 ft metal canopy at the south end of the facility. Building 725-A had a total area of 3,920 ft<sup>2</sup>.

The Paint Storage Building (726-A) was an ancillary structure associated with the Paint Shop Building. It was metal frame construction with transite exterior walls, lead fasteners, and a corrugated asbestos roof. It had overall dimensions of 20 ft by 20 ft. The 726-A facility was used for storage of paints and chemicals that were removed prior to demolition.

Building 725-A was originally built to spray paint equipment and signs. The process was discontinued in the late 1980's and the paint spray room equipment removed. The building was used for office space and storage of materials including office supplies. Due to the age of the building, the paint that was used potentially contained lead and/or chromium.

The *Facility Decommissioning Evaluation Paint Shop Building, 725-A* (WSRC 2004) categorized the building as an "Other Industrial" Hazard Category facility and identified the ISM as the appropriate decommissioning model for this potentially contaminated facility. Characterization was accomplished using a combination of process knowledge/historical release information, verification walkdowns and sampling as appropriate. A review of the ORPS/SIRIM database from 1993 to 2005 indicated no evidence of any spills to the environment. Potential contaminants of concern include metals and VOCs.

The *Decommissioning Project Final Report Building 725-A, Paint Shop Building* (WSRC 2005c) documents a risk assessment that was conducted on the Buildings 725-A and 726-A slabs based on a final verification survey. Potential risks were estimated for an industrial worker exposed to residual contamination. The structure was a non-radiological facility that required no radiological decontamination; therefore, there is no potential for residual radiological contamination. For chemical contaminants, the maximum potential cancer risk to an industrial worker exposed to the general slab areas was estimated to be 7.5E-07. The maximum non-cancer HQ for the slab areas was estimated to be 1.46E-02. A VZCOMML was performed for A/M-Area. The model identified no contaminants on the 725-A/726-A slab with potential to impact groundwater.

The DPFRR concluded that the building structure decommissioning activities have been completed, including waste disposal in accordance with federal and state regulations. The building structure was demolished to the foundation. The concrete slab remains in

place and penetrations greater than two inches in diameter were grouted. Before and after photographs of the decommissioning activities are captured in Figures 11 and 12, respectively. The remaining concrete slabs have been prepared to drain, all protrusions have been cut, and open ends have been permanently closed. A below grade sump in the janitor's closet was filled with gravel. The sump was not in the process area and contained a steam condensate tank. Only steam condensate was managed in the sump. By process knowledge, there are no COCs associated with this sump. An evaluation of the residual chemical contamination present in the foundation has determined that the risk level is acceptable under the industrial worker scenario. The remaining structure is free of physical hazards, and the project cleanliness criteria have been met. Therefore, the DPFRR concluded that further action by SRS is not warranted. No long-term stewardship activities were identified for the structure because it poses no threat to human health or the environment.

In 2007, based on their review of the DPFRR, SCDHEC requested that Building 725-A be transferred to FFA Appendix C.4. In accordance with the D&D protocol at the time, any facility decommissioned using the ISM would automatically transfer to Appendix C.4, regardless of the conclusion of residual or no remaining contamination. In 2022, SCDHEC and USEPA approved the *Core Team Protocol for Review and Concurrence on Facility Decommissioning Evaluations and Decommissioning Project Final Reports* (SRNS-RP-2021-00120, Revision 1, August 2022) which now allows facilities decommissioned under the ISM to be administratively dispositioned to FFA Appendix C.4, D&D Facilities (or remnants) that May Warrant Response Action, or FFA Appendix K.2, D&D Facilities (or remnants) that Require No Further Evaluation.

### ***5.2 Paint Shop Building (725-A) Preliminary Screening***

The final verification survey included 16 sample locations, which were composited in 4 sets of 4 samples and were obtained from the 725-A and 726-A exposure areas (Zone 1, Zone 2, and Zone 3) for RCRA metals analysis (arsenic, barium, cadmium, chromium, lead, mercury [elemental], mercury [compounds], selenium, and silver). Nineteen single samples were taken for VOC analysis, 10 single samples in the 725-A exposure areas (Zone 1 and Zone 2), and 9 single samples in the 726-A exposure areas (Zone 3). The sample locations for

Zone 1, Zone 2, and Zone 3 exposure areas are shown in Figures 13, 14, and 15, respectively.

The maximum detected concentration (725-A and 726-A exposure areas combined) of each analyte shown in Appendix B of the DPFR was used to recalculate human health risk using current EC&ACP protocols (Table 2). The residential scenario had a HI = 0.044 and TCR = 7.5E-07, and the industrial worker scenario had a HI = 0.032 and TCR = 1.7E-07. There are no problems warranting action for the remnant slab from a human health risk perspective.

A quantitative ecological risk assessment is not warranted. The concrete slabs do not provide any habitat and a survey of the surrounding area indicates that the physical setting does not provide adequate habitat for community level impacts to wildlife receptors since it is very small in size and located in an industrial setting. There are no problems warranting action from an ecological risk perspective.

Based on the VZCOMML evaluation, the model identified no contaminants on the 725-A/726-A remnant slabs with potential to impact groundwater.

Problem(s) Warranting Action	Remedial Action Objectives	Scope of Problem(s)	Likely Response Actions
• None	• None	• None	• None
<b>Uncertainties</b>			
• None			

## 6.0 OPERABLE UNIT STRATEGY

The sampling strategy for the 103 Lubrication Pit and SAP for Building 716-A will be documented in the RI Work Plan. Maximum detected concentrations gathered from previous characterization efforts for COCs identified during decommissioning as well as any additional data planned to be collected as part of the RI Work Plan will be used to evaluate Building 716-A in the RI/BRA report.

Table 3 and the conclusions below provide the recommended path forward for Buildings 716-A and 725-A and includes additional data needs as appropriate.

The recommended administrative path for Buildings 716-A and 725-A are as follows:

- Building 716-A was decommissioned using the ISM. The DPFR determined the remaining structure is free of hazards, both physical and chemical and therefore, warrants no further action. The recalculated risks using current EC&ACP protocols confirms this conclusion. However, comments were received from both the USEPA and SCDHEC for SRS to conduct soil sampling for TAL/TCL (excluding herbicides and pesticides) constituents underneath the concrete slab at the 103 Lubrication Pit area to determine whether there has been a release to the environment. In addition, all drain lines and/or sewer lines for Building 716-A will be investigated through this RI to address USEPA's comment on the FDE regarding them. Proposed soil sampling locations at Building 716-A are shown on Figure 16.
- Building 725-A was decommissioned using the ISM. The DPFR determined the remaining structure is free of hazards, both physical and chemical and therefore, warrants no further action. The recalculated risks using current EC&ACP protocols confirms this conclusion. Based on the conclusions of the DPFR and the updated evaluation applying current EC&ACP protocols, there are no human health, ecological, or contaminant migration COCs for Building 725-A. Therefore, pending Core Team agreement on the administrative path, SRS recommends that Building 725-A is transferred by USDOE letter to FFA Appendix K.2, D&D Facilities (or remnants) that Require No Further Evaluation, and decoupled from the OU.

The RI Work Plan including the SAP for the additional characterization required at Building 716-A, will be submitted on or before January 25, 2024.

## 7.0 REFERENCES

SRNS, 2023. *Environmental Compliance and Regulatory Document Handbook*, SRNS-RP-2022-00330, Revision 0, June 2023, Savannah River Nuclear Solutions, Savannah River Site, Aiken, SC

WSRC, 2004. *Facility Decommissioning Evaluation Paint Shop Building, 725-A*, G-FDE-A-00035, Revision 1, November 8, 2004, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2005a. *Facility Decommissioning Evaluation Automotive Repair Shop, 716-A*, G-FDE-A-00039, Revision 1, January 24, 2005, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2005b. *Decommissioning Project Final Report 716-A, Automotive Repair Shop*, V-PCOR-A-00043, Revision 0, June 30, 2005, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2005c. *Decommissioning Project Final Report Building 725-A, Paint Shop Building*, V-PCOR-A-00037, Revision 0, May 31, 2005, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2005d. *Final Verification Survey for 716-A*, SDD-SAP-2005-00004, Revision 0, May 3, 2005, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2005e. *Final Verification Survey for 725-A*, SDD-SAP-2005-00002, Revision 0, March 3, 2005, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

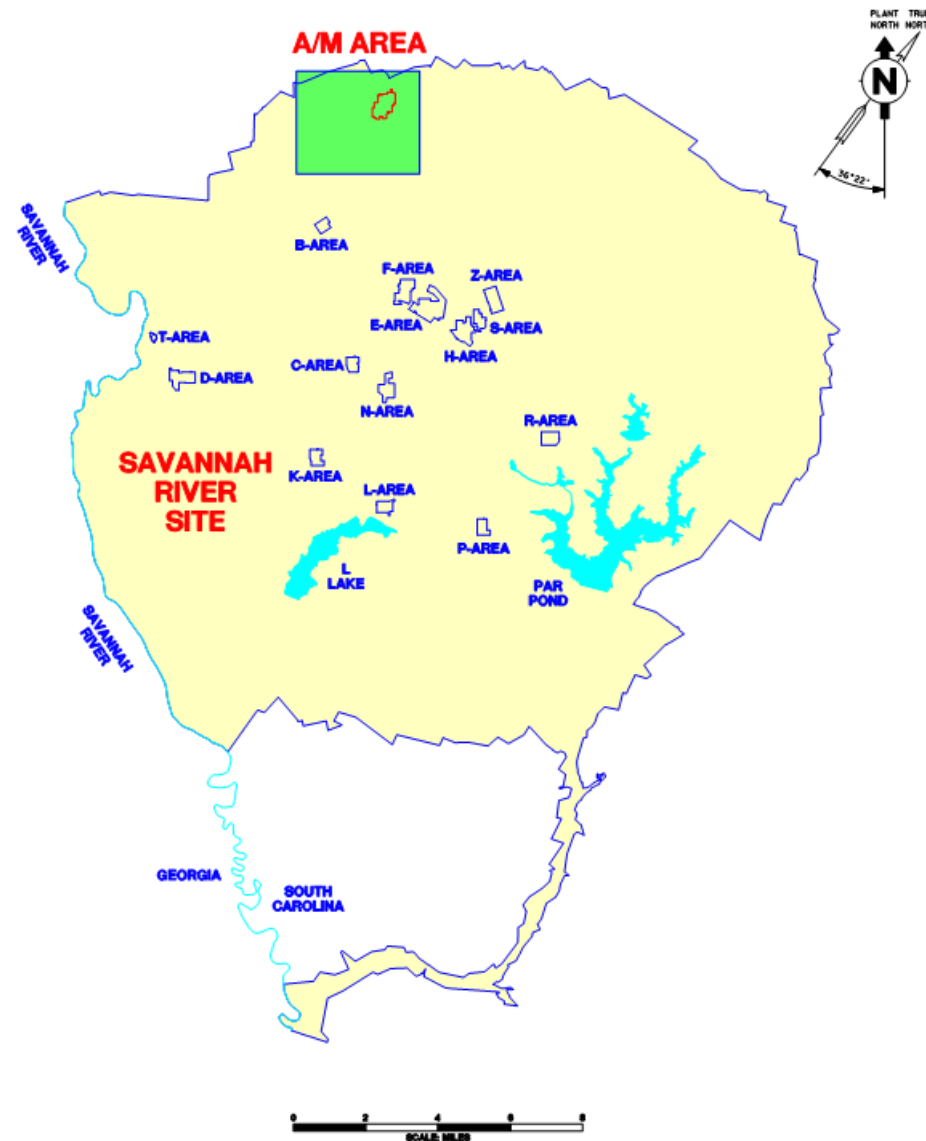


Figure 1. Location of A Area within Savannah River Site

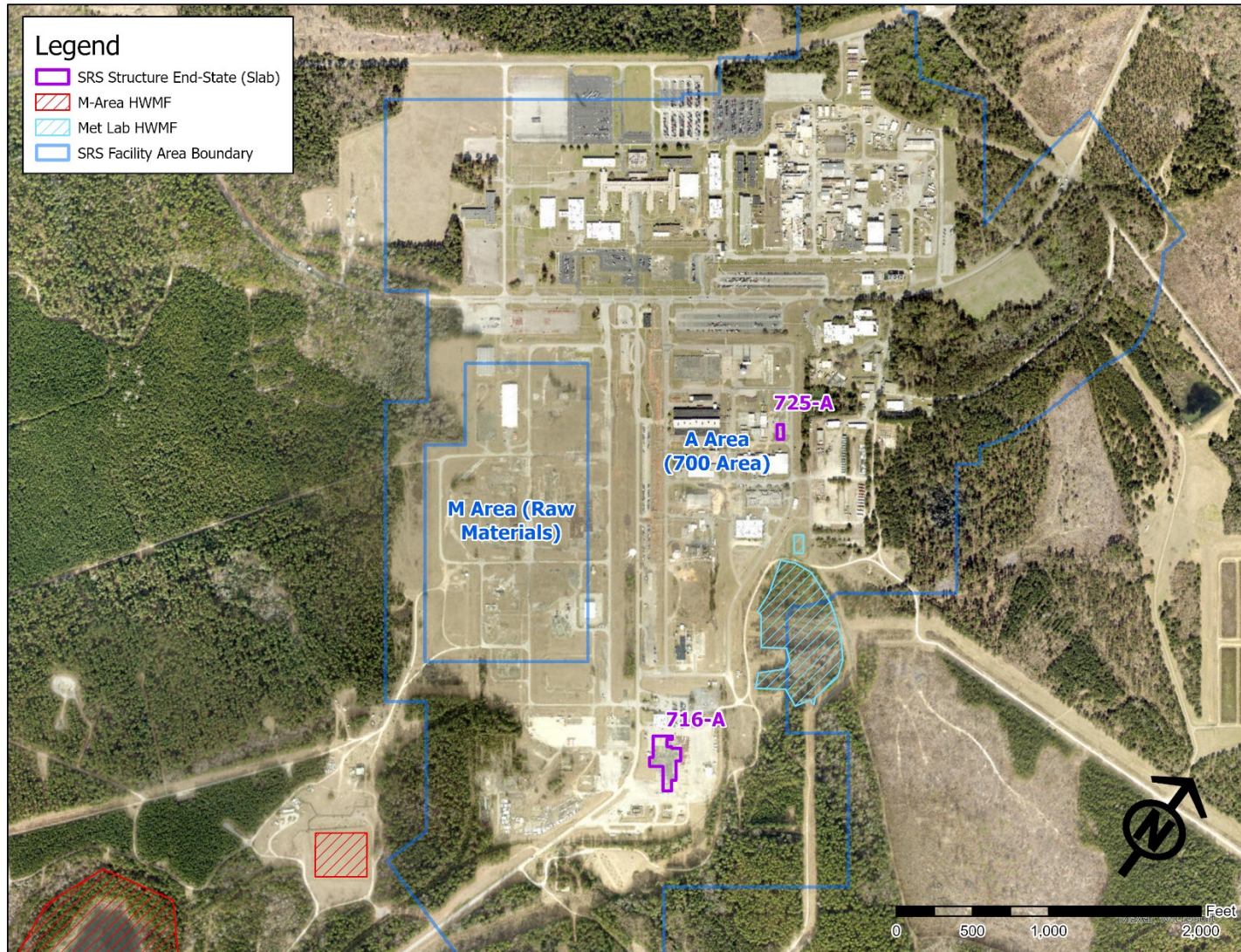


Figure 2. Location of Building 716-A and Building 725-A within A Area

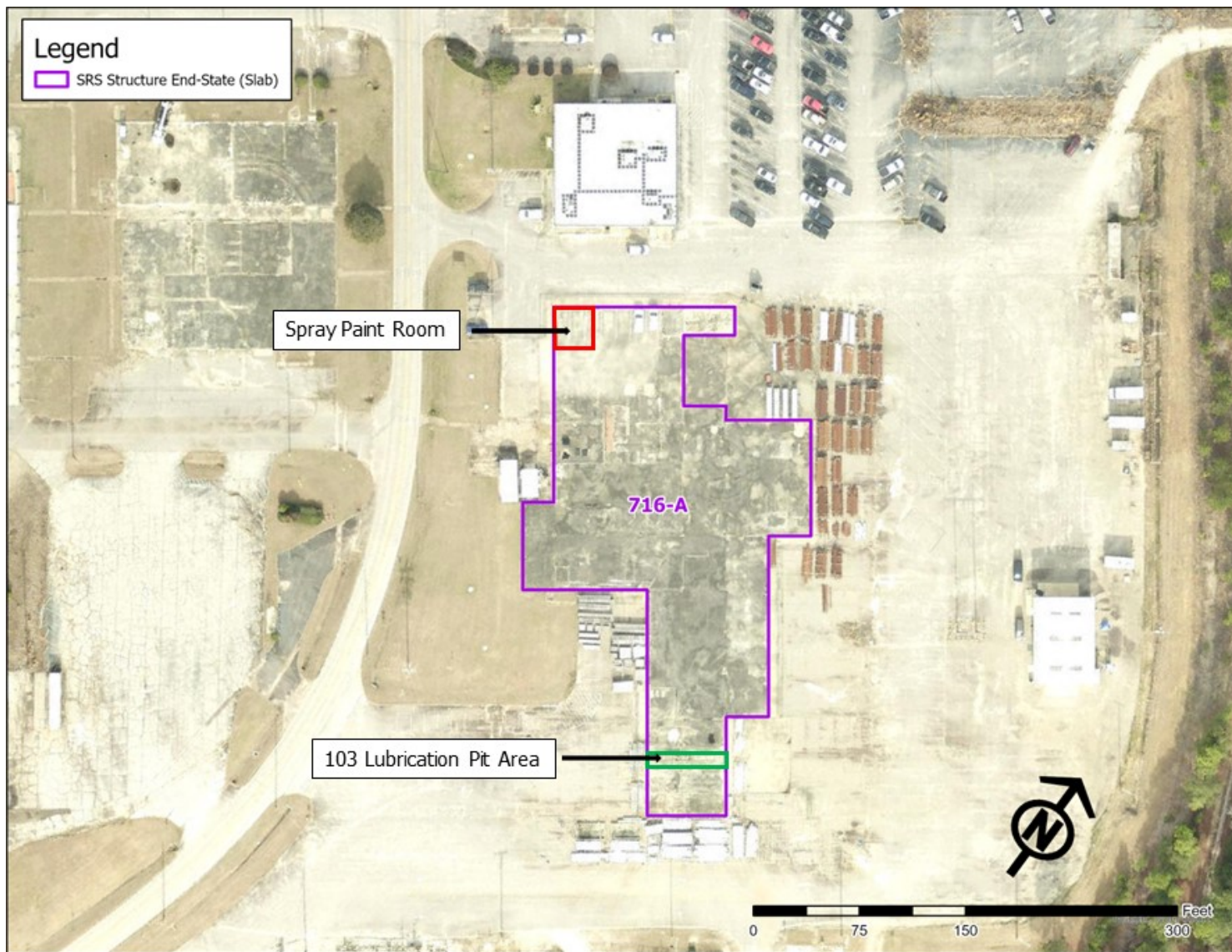


Figure 3. Location of Automotive Repair Shop (716-A)

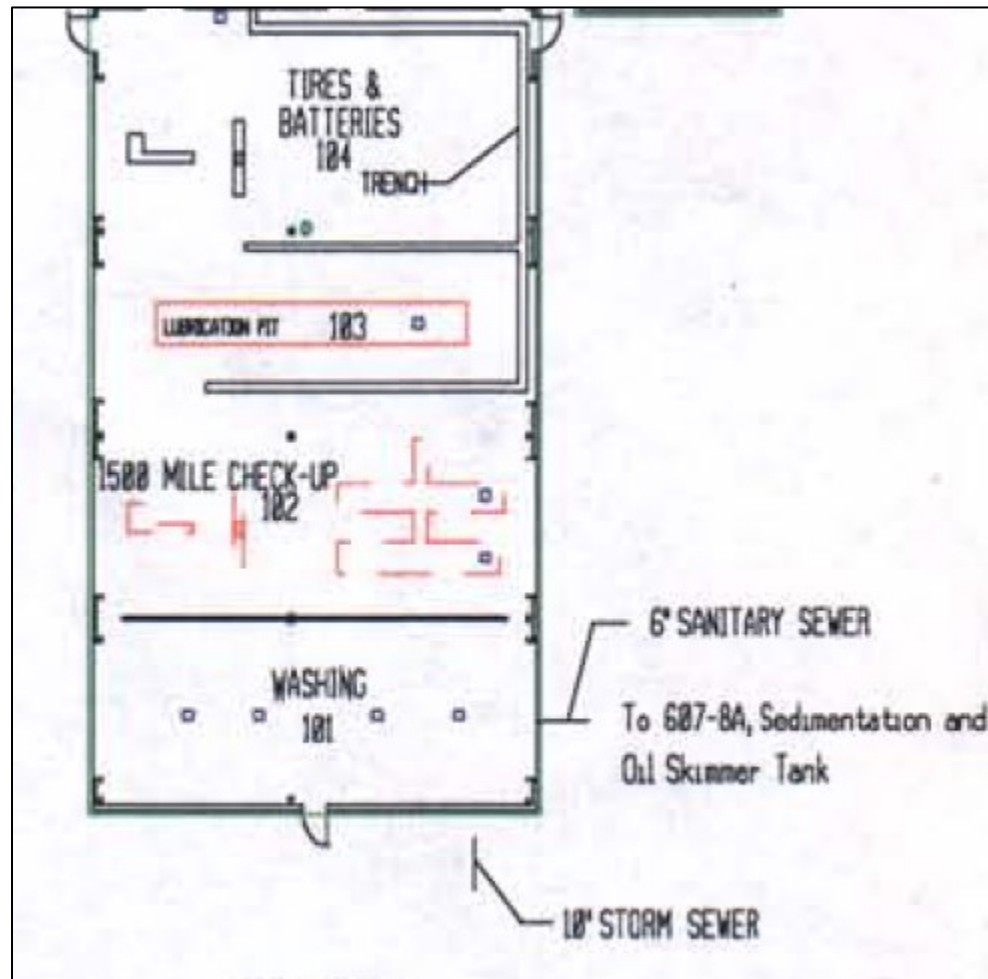


Figure 4. Location of 103 Lubrication Pit within the South End Floor Plan of Building 716-A

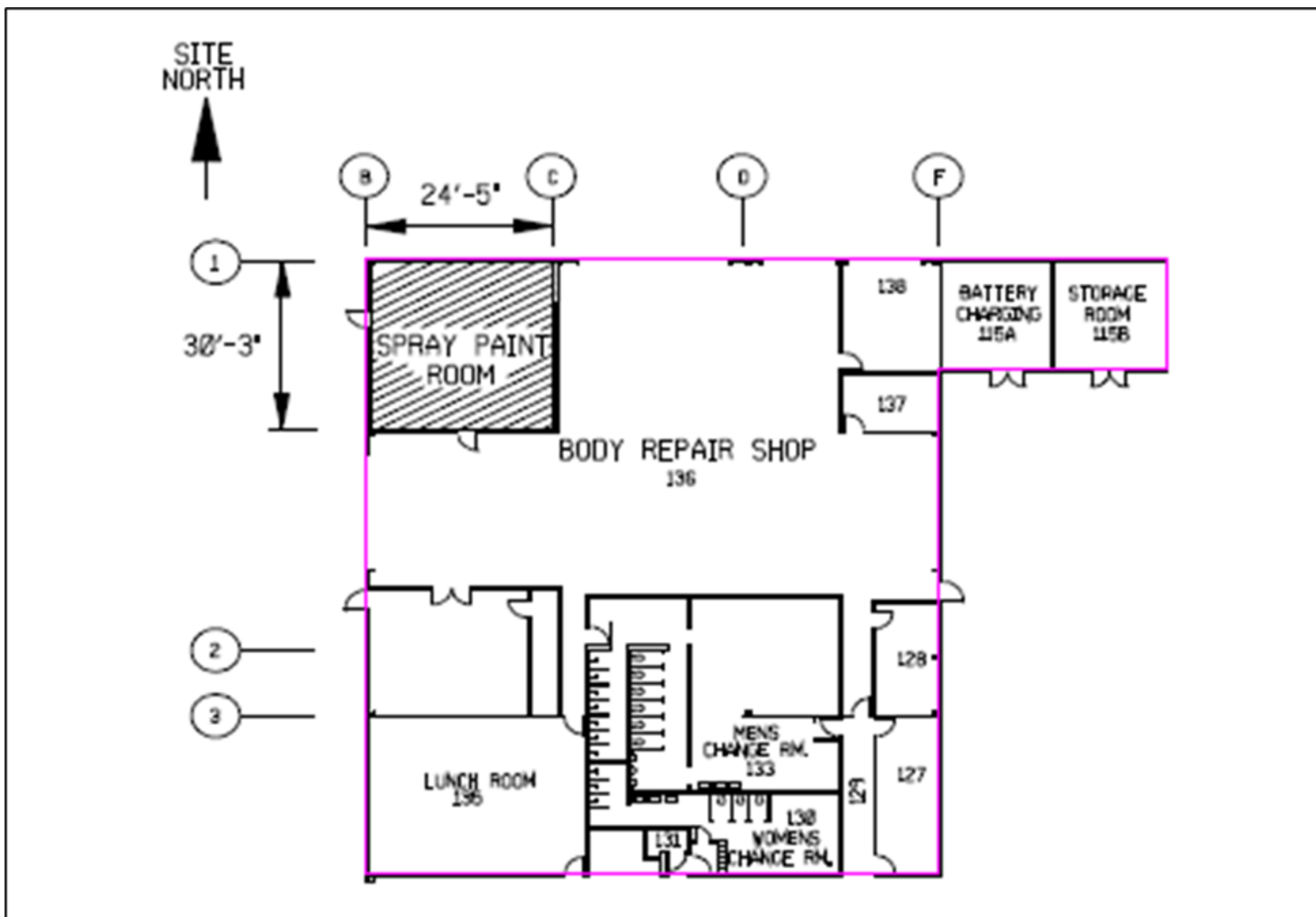


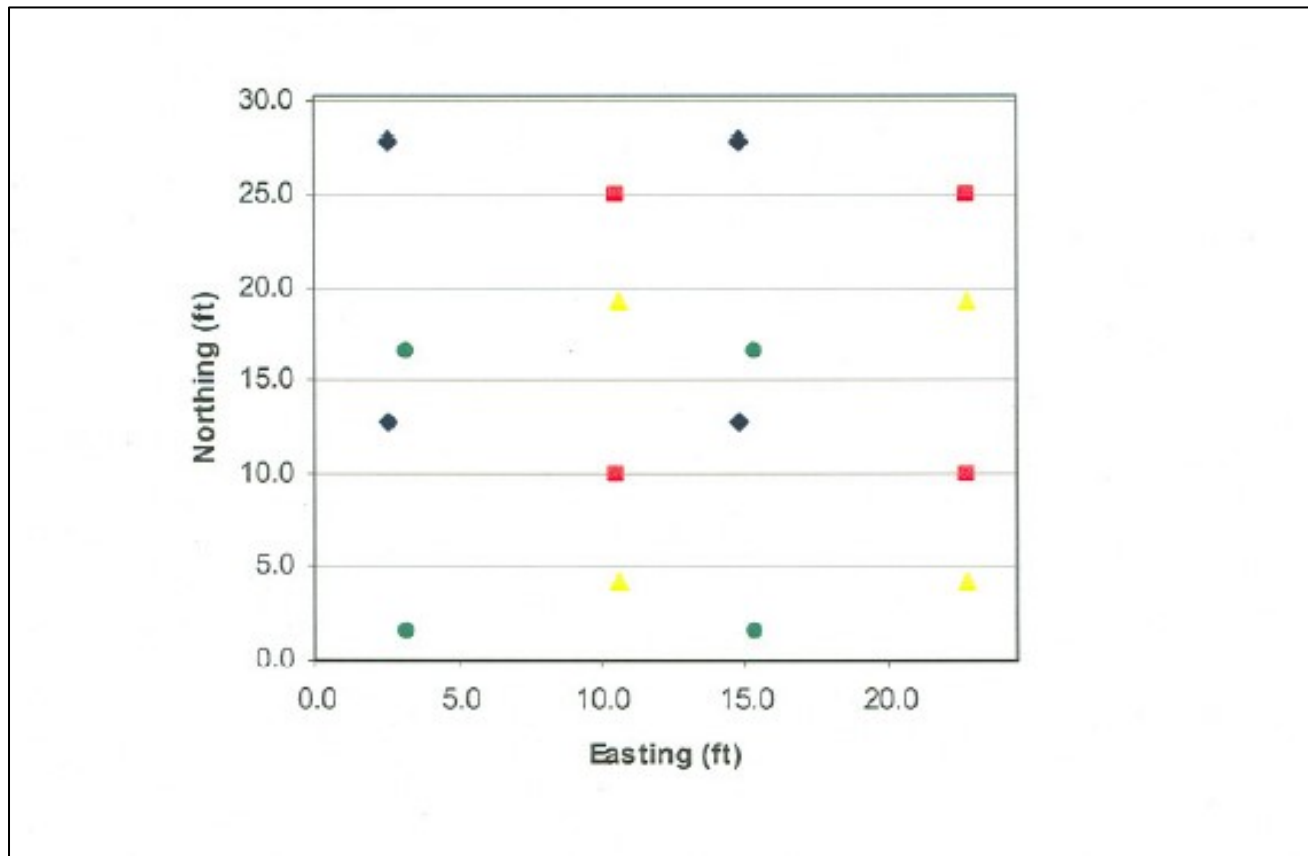
Figure 5. Location of Spray Paint Room in Northwest Corner of Building 716-A



Figure 6. Building 716-A, Before Decommissioning



Figure 7. Building 716-A Slab, After Decommissioning



**Figure 8. Sample Locations for RCRA Metals at Building 716-A Spray Paint Room (WSRC 2005d)**

Note: Each color/shape represents the set of four samples used for each composite sample.

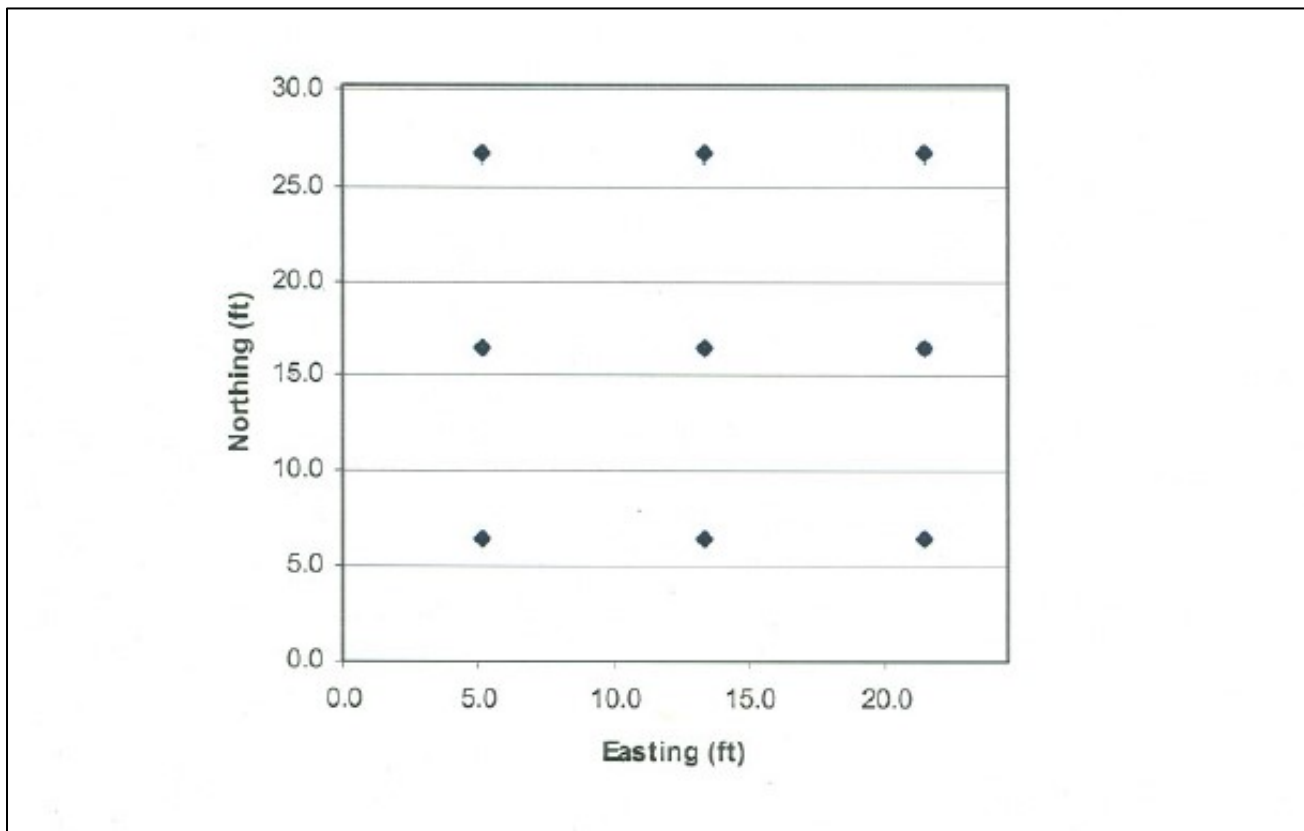


Figure 9. Sample Locations for VOCs at Building 716-A Spray Paint Room (WSRC 2005d)



Figure 10. Location of Paint Shop Building (725-A)



Figure 11. Building 725-A, Before Decommissioning



Figure 12. Building 725-A, After Decommissioning

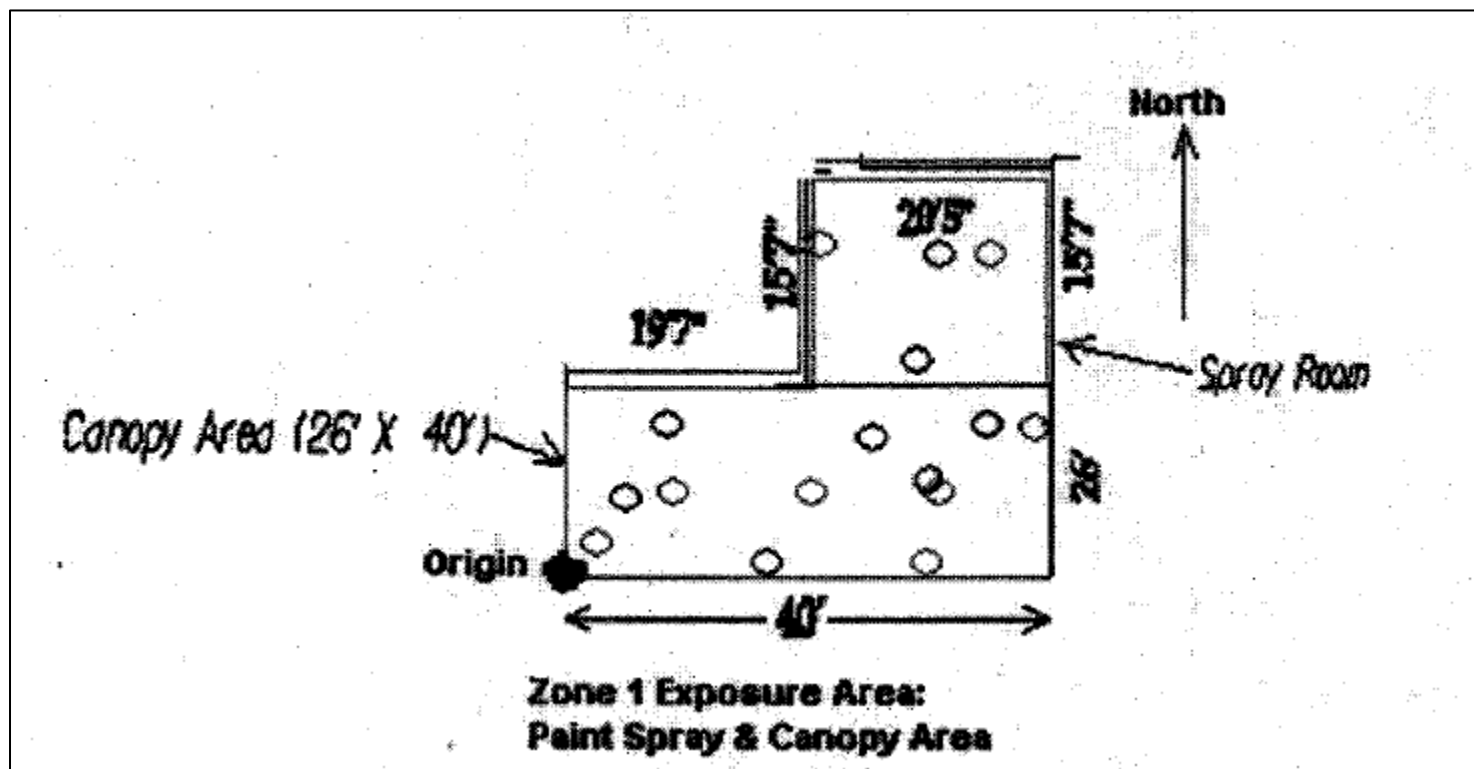


Figure 13. Sample Locations in Zone 1 Exposure Area for Building 725-A (WSRC 2005e)

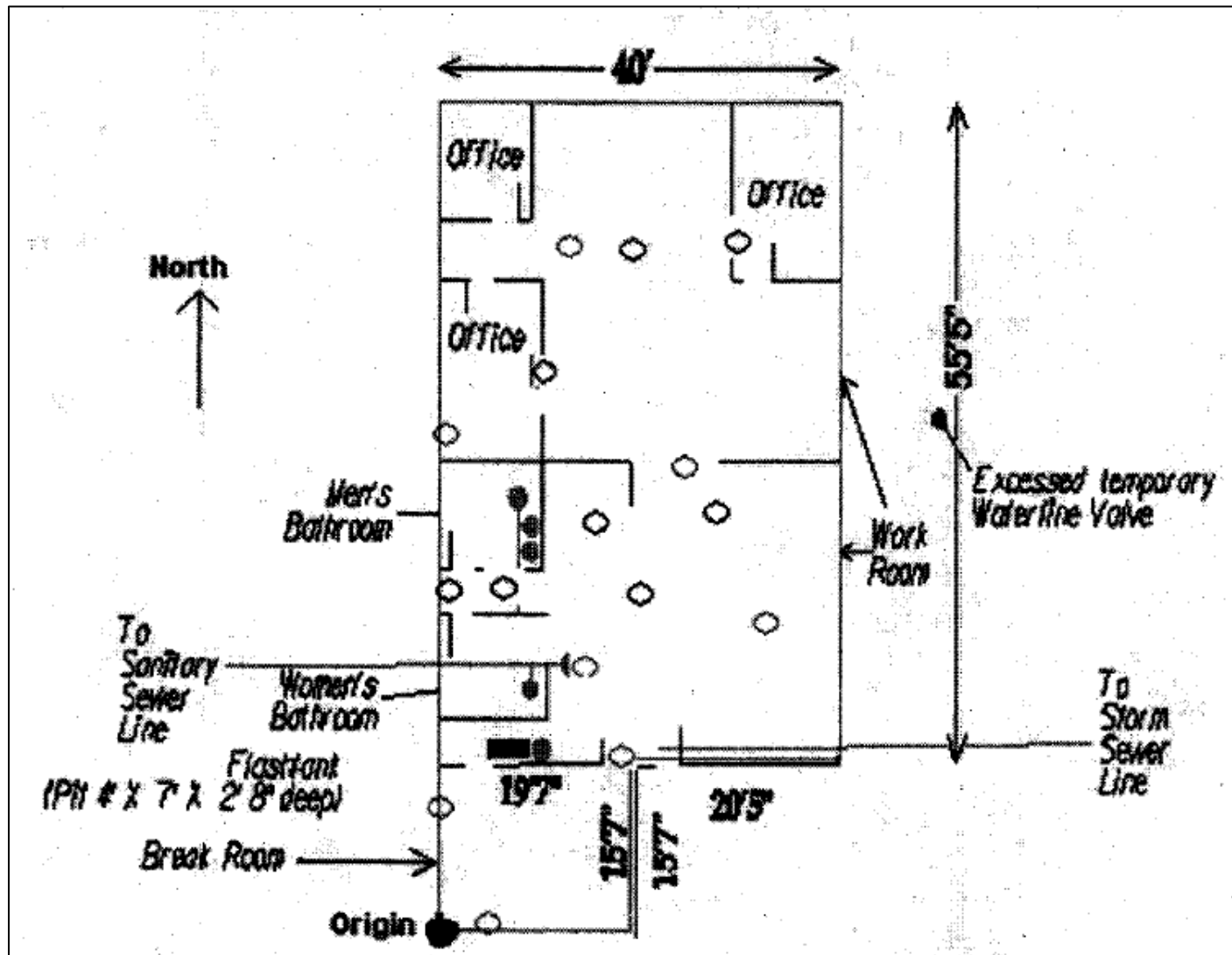


Figure 14. Sample Locations in Zone 2 Exposure Area for Building 725-A (WSRC 2005e)

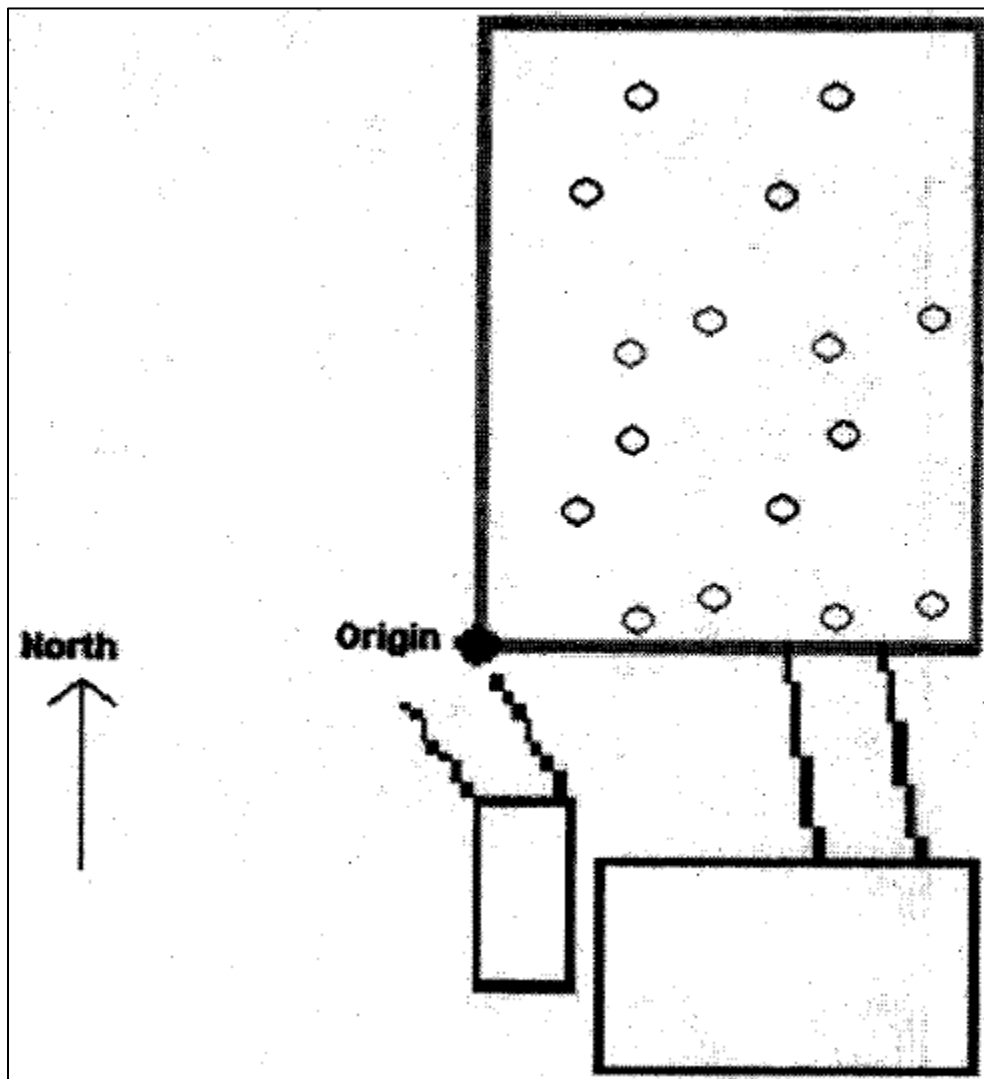


Figure 15. Sample Locations in Zone 3 Exposure Area for Building 726-A (WSRC 2005e)

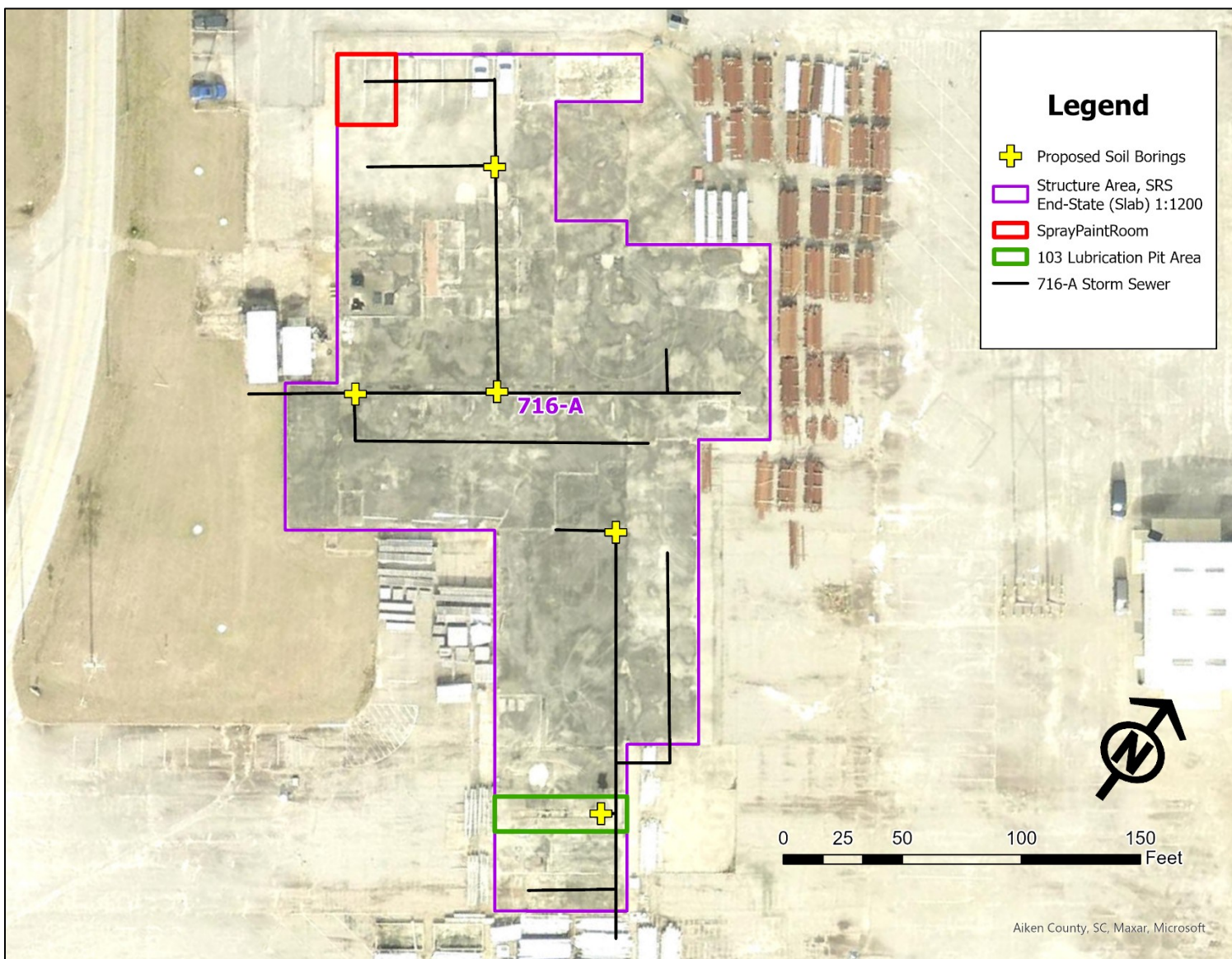


Figure 16. Proposed Soil Sampling Locations at Building 716-A

**Table 1. Preliminary Human Health Risk Calculation for Building 716-A Slab (Spray Paint Room Exposure Area)**

Analyte	Maximum Concentration <sup>1</sup>	Residential Scenario					Industrial Worker Scenario						
		Residential Soil RSL <sup>2</sup>	Noncarcinogenic Hazard Estimate		Carcinogenic Risk Estimate		Industrial Soil RSL <sup>2</sup>	Noncarcinogenic Hazard Estimate		Carcinogenic Risk Estimate			
			Residential Concrete RSL <sup>3</sup>	Residential HQ Estimate <sup>4</sup>	Residential Concrete RSL <sup>3</sup>	Residential Risk Estimate <sup>5</sup>		Industrial Concrete RSL <sup>3</sup>	Industrial HQ Estimate <sup>4</sup>	Industrial Concrete RSL <sup>3</sup>	Industrial Risk Estimate <sup>5</sup>		
<i>Inorganics (mg/kg)</i>													
Arsenic	2.82E+00	6.8E-01	--	--	6.8E+00	4.1E-07	3.0E+00	--	--	3.0E+01	9.4E-08		
Barium	4.87E+01	1.5E+04	1.5E+05	3.2E-04	--	--	2.2E+05	2.2E+06	2.2E-05	--	--		
Cadmium	8.47E-01	7.1E+00	7.1E+01	1.2E-02	--	--	1.0E+02	1.0E+03	8.5E-04	--	--		
Chromium	8.78E+00	1.2E+05	1.2E+06	7.3E-06	--	--	1.8E+06	1.8E+07	4.9E-07	--	--		
Lead	1.54E+01	4.0E+02	4.0E+03	3.9E-03	--	--	8.0E+02	8.0E+03	1.9E-03	--	--		
Mercury	1.73E-02	1.1E+01	1.1E+02	1.6E-04	--	--	4.6E+01	4.6E+02	3.8E-05	--	--		
Selenium	4.21E+00	3.9E+02	3.9E+03	1.1E-03	--	--	5.8E+03	5.8E+04	7.3E-05	--	--		
Silver	5.20E-02	3.9E+02	3.9E+03	1.3E-05	--	--	5.8E+03	5.8E+04	9.0E-07	--	--		
<i>Organics (mg/kg)</i>													
2-Hexanone	1.64E-02	2.0E+02	2.0E+03	8.2E-06	--	--	1.3E+03	1.3E+04	1.3E-06	--	--		
Acetone	7.03E-02	7.0E+04	7.0E+05	1.0E-07	--	--	1.1E+06	1.1E+07	6.4E-09	--	--		
Benzene	6.81E-04	1.2E+00	--	--	1.2E+01	5.7E-11	5.10E+00	--	--	5.1E+01	1.3E-11		
Ethylbenzene	3.03E-03	5.8E+00	--	--	5.8E+01	5.2E-11	2.5E+01	--	--	2.5E+02	1.2E-11		
Methyl ethyl ketone	2.88E-02	2.7E+04	2.7E+05	1.1E-07	--	--	1.9E+05	1.9E+06	1.5E-08	--	--		
Methyl isobutyl ketone	1.10E-02	3.3E+04	3.3E+05	3.3E-08	--	--	1.4E+05	1.4E+06	7.9E-09	--	--		
Styrene	2.57E-03	6.0E+03	6.0E+04	4.3E-08	--	--	3.5E+04	3.5E+05	7.3E-09	--	--		
Toluene	4.49E+00	4.9E+03	4.9E+04	9.2E-05	--	--	4.7E+04	4.7E+05	9.6E-06	--	--		
Xylenes	8.67E-03	5.8E+02	5.8E+03	1.5E-06	--	--	2.5E+03	2.5E+04	3.5E-07	--	--		
			<b>Hazard Index (HI)</b>	<b>1.7E-02</b>	<b>Cumulative Risk</b>	<b>4.1E-07</b>				<b>Hazard Index (HI)</b>	<b>2.9E-03</b>	<b>Cumulative Risk</b>	<b>9.4E-08</b>

1 - Maximum detected concentration from DPFR 716-A, Automotive Repair Shop, V-PCOR-A-00043, Appendix B (WSRC 2005).

2 - RSLs are default resident or industrial worker soil values from the *EPA Regional Screening Levels Table*, dated May 2023.

3 - RSLs for concrete media are ten times (10x) the soil RSLs.

4 - Hazard Estimate (HQ) = maximum concentration /concrete RSL concentration.

5 - Risk Estimate = (maximum concentration/concrete RSL concentration) x 1E-06.

**Table 2. Preliminary Human Health Risk Calculation for Buildings 725-A/726-A Slabs (Buildings 725-A and 726-A Combined Exposure Areas)**

Analyte	Maximum Concentration <sup>1</sup>	Residential Scenario					Industrial Worker Scenario						
		Residential Soil RSL <sup>2</sup>	Noncarcinogenic Hazard Estimate		Carcinogenic Risk Estimate		Industrial Soil RSL <sup>2</sup>	Noncarcinogenic Hazard Estimate		Carcinogenic Risk Estimate			
			Residential Concrete RSL <sup>3</sup>	Residential HQ Estimate <sup>4</sup>	Residential Concrete RSL <sup>3</sup>	Residential Risk Estimate <sup>5</sup>		Industrial Concrete RSL <sup>3</sup>	Industrial HQ Estimate <sup>4</sup>	Industrial Concrete RSL <sup>3</sup>	Industrial Risk Estimate <sup>5</sup>		
<i>Inorganics (mg/kg)</i>													
Arsenic	4.40E+00	6.8E-01	--	--	6.8E+00	6.5E-07	3.0E+00	--	--	3.0E+01	1.5E-07		
Barium	5.50E+01	1.5E+04	1.5E+05	3.7E-04	--	--	2.2E+05	2.2E+06	2.5E-05	--	--		
Cadmium	7.20E-01	7.1E+00	7.1E+01	1.0E-02	--	--	1.0E+02	1.0E+03	7.2E-04	--	--		
Chromium	1.90E+01	1.2E+05	1.2E+06	1.6E-05	--	--	1.8E+06	1.8E+07	1.1E-06	--	--		
Lead	7.70E+00	4.0E+02	4.0E+03	1.9E-03	--	--	8.0E+02	8.0E+03	9.6E-04	--	--		
Mercury	1.50E+00	1.1E+01	1.1E+02	1.4E-02	--	--	4.6E+01	4.6E+02	3.3E-03	--	--		
Selenium	9.00E-01	3.9E+02	3.9E+03	2.3E-04	--	--	5.8E+03	5.8E+04	1.6E-05	5.8E+04	1.6E-11		
Silver	9.80E-02	3.9E+02	3.9E+03	2.5E-05	--	--	5.8E+03	5.8E+04	1.7E-06	--	--		
<i>Organics (mg/kg)</i>													
1,2-Dichlorobenzene	8.40E-04	1.8E+03	1.8E+04	4.7E-08	--	--	9.3E+03	9.3E+04	9.0E-09	--	--		
Acetone	2.80E-02	7.0E+04	7.0E+05	4.0E-08	--	--	1.1E+06	1.1E+07	2.5E-09	--	--		
Cumene	1.80E-02	1.9E+03	1.9E+04	9.5E-07	--	--	9.9E+03	9.9E+04	1.8E-07	--	--		
Ethylbenzene	5.70E+00	5.8E+00	--	--	5.8E+01	9.8E-08	2.5E+01	2.5E+02	2.3E-02	2.5E+02	2.3E-08		
Methyl ethyl ketone	3.50E-03	2.7E+04	2.7E+05	1.3E-08	--	--	1.9E+05	1.9E+06	1.8E-09	--	--		
Methyl isobutyl ketone	1.00E+01	3.3E+04	3.3E+05	3.0E-05	--	--	1.4E+05	1.4E+06	7.1E-06	--	--		
Toluene	3.40E+00	4.9E+03	4.9E+04	6.9E-05	--	--	4.7E+04	4.7E+05	7.2E-06	--	--		
Xylenes	5.10E+01	5.8E+02	5.8E+03	8.8E-03	--	--	2.5E+03	2.5E+04	2.0E-03	--	--		
m,p-Xylene	3.00E+01	5.5E+02	5.5E+03	5.5E-03	--	--	2.4E+03	2.4E+04	1.3E-03	--	--		
o-Xylene	2.10E+01	6.4E+02	6.4E+03	3.3E-03	--	--	2.8E+03	2.8E+04	7.5E-04	--	--		
			<b>Hazard Index (HI)</b>	<b>4.4E-02</b>	<b>Cumulative Risk</b>	<b>7.5E-07</b>				<b>Hazard Index (HI)</b>	<b>3.2E-02</b>	<b>Cumulative Risk</b>	<b>1.7E-07</b>

1 - Maximum detected concentration from DPFR 725-A, Paint Shop Building, V-PCOR-A-00037, Appendix B (WSRC 2005).

2 - RSLs are default resident or industrial worker soil values from the *EPA Regional Screening Levels Table*, dated May 2023.

3 - RSLs for concrete media are ten times (10x) the soil RSLs.

4 - Hazard Estimate (HQ) = maximum concentration /concrete RSL concentration

5 - Risk Estimate = (maximum concentration/concrete RSL concentration) x 1E-06.

**Table 3. Summary of RI Data Needs**

Subunit	Sample Type	Number of Locations	Total Depth	Sample Interval	Analyses	Purpose
Automotive Repair Shop (716-A)	Soil Cores	5 Locations: 1 beneath the 103 Lubrication Pit; 4 beneath the underground drain lines and/or storm sewer lines throughout the slab	0-160 ft; 0-50 ft; 0-50 ft; 0-50 ft; 0-50 ft	Samples to be collected every 5 ft through 50 ft and every 10 ft there after to total depth.	TCL, TAL (excluding herbicides and pesticides)	Determine if contamination is present beneath the 103 Lubrication Pit and the storm sewer line.
Paint Shop Building (725-A)	None	N/A	N/A	N/A	N/A	No further action

**Table 4. Record of Core Team Agreements<sup>1</sup>**

<b>RECORD OF CORE TEAM AGREEMENTS</b>	
<b>Date</b>	<b>Description of Agreement</b>
10/02/2023	The Core Team is in agreement with the problem warranting action for the Automotive Repair Shop (716-A) and the proposal to sample soil for TAL/TCL (excluding herbicides and pesticides) constituents underneath the concrete slab at the 103 Lubrication Pit at 1 location and beneath the underground drain lines and/or storm sewer lines at 4 locations. The sampling strategy will be documented in the RI Work Plan (including the SAP and OU strategy) to be submitted on or before 1/25/2024.
10/02/2023	The Core Team is in agreement that there are no problems warranting action and there is no additional data needed at the Paint Shop Building (725-A). Building 725-A will be transferred by USDOE letter to FFA Appendix K.2, D&D Facilities (or remnants) that Require No Further Action.

<sup>1</sup> Core team agreements should be documented at each phase and should be retained for each successive phase in order to maintain a comprehensive list for the life of the project.

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