

**Engineering Survey & Interference
Report for Building 233-23H, RTF Warehouse and Building 233-24H,
Maintenance Shop**



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1.0 Introduction

The purpose of this survey / report is to provide guidance for the safe demolition and removal of Buildings 233-23H and 233-24H, and meet the requirements of Occupational Safety and Health Administration (OSHA) standard 29 CFR 1926, Subpart T 850(a).

2.0 Background

2.1 Facility Descriptions

This document addresses Building 233-23H, RTF Warehouse and Building 233-24H, Maintenance Shop. There are no ancillary structures associated with these buildings.

Building 233-23H is a 3,800 square foot single story building erected in 2000 on a concrete slab near the northwest corner of the Savannah River Tritium Enterprise (SRTE) area of the Savannah River Site's H-Area.

- Building 233-23H is 95' long x 40' wide with an 18'-6" eave height.
- The building is a pre-engineered steel frame building erected on a 6" concrete slab with painted corrugated metal siding and roof.
- The building was constructed for and has since been used for clean warehouse storage of consumables, spare parts, and repairables (such as pressure relief valves).
- The interior consists of a single, large rectangular room with no interior partitions.
- There are two 3'-0" x 7'-0" hollow metal steel doors and a 10'-0" x 14'-0" electrically operated aluminum rollup door in the building's exterior walls.
- The floor is bare concrete throughout the facility.
- The building's exterior 18'-6" high walls are insulated with vinyl faced fiberglass insulation. The building has no HVAC unit(s), just two 7.5 KW electric unit heaters suspended from the roof purlins at the building's northwest and southeast corners, respectively, and a small 1000 CFM electric exhaust fan mounted in the east wall.
- A wet sprinkler system riser enters the building from beneath the floor slab at the southeast interior corner. The sprinkler system contains 44 sprinkler heads suspended 4" below the roof purlins.
- Building 233-23H also contains a fire alarm system, Public Address system, electrical service, and telecommunications service.
- The building contains no sumps, pits or drains.

Building 233-24H is a 3,800 square foot single story building erected in 2000 on a concrete slab near the northwest corner of the Savannah River Tritium Enterprise (SRTE) area of the Savannah River Site's H-Area, 20'-0" south of and parallel to Building 233-23H.

- Building 233-24H is 95' long x 40' wide with an 16'-0" eave height.
- The building is a pre-engineered steel frame building erected on a 6" concrete slab with painted corrugated metal siding and roof.

- Although called Maintenance Shop, the building was designed and constructed to be a Maintenance Training Facility.
- Due to a need for additional warehouse space, the facility was re-purposed as a clean warehouse for sensitive spare parts storage.
- The building was designed and constructed with a 17'-4" x 40'-0" conference room across the interior of its west end and a 10'-0" x 10'-0" telecommunications room inside its northeast corner. The conference room was re-purposed to hold Vidmar® cabinets for small parts storage. The telecommunications room retained its designed purpose.
- The balance of 233-24H's interior is a large open room used for sensitive spare parts storage versus the maintenance training originally intended.
- There are five 3'-0" x 7'-0" hollow metal steel doors (2 interior and 3 exterior) and an electrically operated exterior 12'-0" x 14'-0" steel rollup door.
- The floor is bare concrete throughout the facility.
- The building contains no sumps, pits or drains.

2.2 Facilities Condition

Based on visual inspection on December 2, 2020, both structures as defined in References 5.1 and 5.2 are in good condition. The proposed decommissioning end-state for these facilities is demolition to, but not including the building slabs.

- There is no potential for unplanned partial or total collapse of either structure for the duration of demolition activities.
- Building 233-24H is located approximately ten feet north and west of a stone filled drainage ditch, while 233-23H is located parallel to and 20' north of 233-24H (see Appendix A, Figure 4).
- There are no overhead electrical lines that can interfere with the demolition of these buildings.
- There are no fall hazards associated with either Building 233-23H or 233-24H
- A revalidation of the asbestos report conducted in 2013 for 233-23H was performed October 7, 2019 and revised on November 11, 2020 to correct the construction data and square footage (Reference 5.3). On November 11, 2020, an inspection was performed on 233-24H to revalidate the 2013 asbestos report for that building (Reference 5.4). The results of both those revalidations were negative for asbestos containing materials (ACMs).

3.0 Discussion

3.1 General

All demolition work shall meet the requirements of 29 CFR 1926 Subpart T and SRS Manual 8Q, Procedure 104. All employees performing demolition work shall be knowledgeable of these documents.

Other hazards not specifically identified in this engineering survey are mitigated or prevented by Site programs as described in SRS Manual 1-01, MP 1.22 Integrated Safety Management System.

All wastes generated during decommissioning shall be managed in accordance with SRS procedures. Barricades will be established in accordance with Manual 8Q, Procedure 9 prior to demolition.

3.2 Interferences

Prior to demolition, Buildings 233-23H and 233-24H shall be disconnected from any associated utilities (mechanical and electrical) and verified isolated in accordance with Employee Safety Manual 8Q, Procedure 121, Rev. 4, "Out of Commission (OOC) Process", Reference 5.10.

Appendix A provides a general lay-out of the area, interfacing facilities/utilities within proximity and defines the demolition boundary. All underground utilities are buried deep enough that the equipment may safely operate over them (References 5.7 through 5.9).

Figures 1, 5 and 6 in Appendix A show an approximately 4' deep manhole containing an electrical raceway and electrical cables that run parallel to and between the two buildings, and then south from the raceway under 233-24H to the cooling tower. The manhole is accessed by a lightweight aluminum cover. All efforts should be exercised to demolish or dismantle the buildings without damaging the manhole and its contents.

3.3 Hazardous Energy

After completion and verification of electrical and mechanical isolation of the two buildings per Employee Safety Manual, 8Q, Procedure 121, Rev. 8 (Ref. 5.10) there will be no hazardous energy associated with Buildings 233-23H and 233-24H.

3.4 Unplanned Collapse

There is no potential for an unplanned collapse associated with the demolition of Buildings 233-23H and 233-24H.

4.0 Summary / Conclusions

These building structures have no future mission and the end state is, "Demolish" to, but not including, the buildings' concrete slabs. Due to the close proximity of these buildings to each other (20'), a drainage ditch filled with rip rap on the south and east sides of 233-24H, and a major area roadway on the north side of 233-23H and on the east side of both

buildings, the structures may be demolished using a combination of equipment including a track hoe mounted hydraulic shear, or a grappler and front-end loaders to load material into skip pans. Also, because of the excellent condition of both buildings, these buildings lend themselves to be dismantled and removed piece by piece by an organization such as CRO (Community Reuse Organization) for resale or reuse. The equipment operators should utilize a flag person so as not to contact facilities/services within close proximity of the demolition area (such as the electrical manhole between the buildings) or tip over in the drainage ditch areas or sloped areas on the east side of the buildings. The area will be cleaned up after completion of all demolition.

This engineering survey was performed to determine the condition of the structures prior to demolition. The results of the survey are that the structures are sound and conventional demolition may proceed.

5.0 References

- 5.1 G-FDE-H-00007, Rev.0, dated January 28, 2021, "Facility Decommissioning Evaluation Building 233-23H, RTF Warehouse, and Building 233-24H, Maintenance Shop"
- 5.2 V-PMP-H-00044, Rev. 0, dated January 28, 2021, "Decommissioning End Points Document Building 233-23H, RTF Warehouse, and 233-24H Maintenance Shop"
- 5.3 Q-APG-H-00015, Rev. 1, dated November 12, 2020, Environmental Compliance & Area Completion Projects Baseline Asbestos Inspection Report of 233-23H"
- 5.4 Q-APG-H-00080, Rev. 0, dated November 11, 2020, Environmental Compliance & Area Completion Projects Baseline Asbestos Inspection Report of 233-24H"
- 5.5 G-SOW-H-00298, Rev. 0, dated January 28, 2020, "Statement of Work for the Decommissioning of Building 233-23H, RTF Warehouse, and Building 233-24H, Maintenance Shop"
- 5.6 C-CT-H-7868, Rev. 0, dated 12/07/2000, "CLWR – Tritium Extraction Facility Tritium North East Corner Site Plan"
- 5.7 C-CY-H-0071, Rev. 0, dated 1/18/2001, "CLWR – Tritium Extraction Facility Tritium North East Corner Site Utilities Plan".
- 5.8 C-CF-H-7879, Rev. 0, dated 12/7/2000, "CLWR – Tritium Extraction Facility Replacement Buildings Miscellaneous Civil Details Sheet 1 of 2"
- 5.9 C-CT-H-7880, Rev. 0, dated 12/7/2000, "CLWR – Tritium Extraction Facility Replacement Buildings Miscellaneous Civil Details Sheet 2 of 2"
- 5.10 Employee Safety Manual 8Q, Procedure 121, Revision 4, "Out of Commission (OOC) Process"

Appendix A – General Layout and Interfacing Facilities

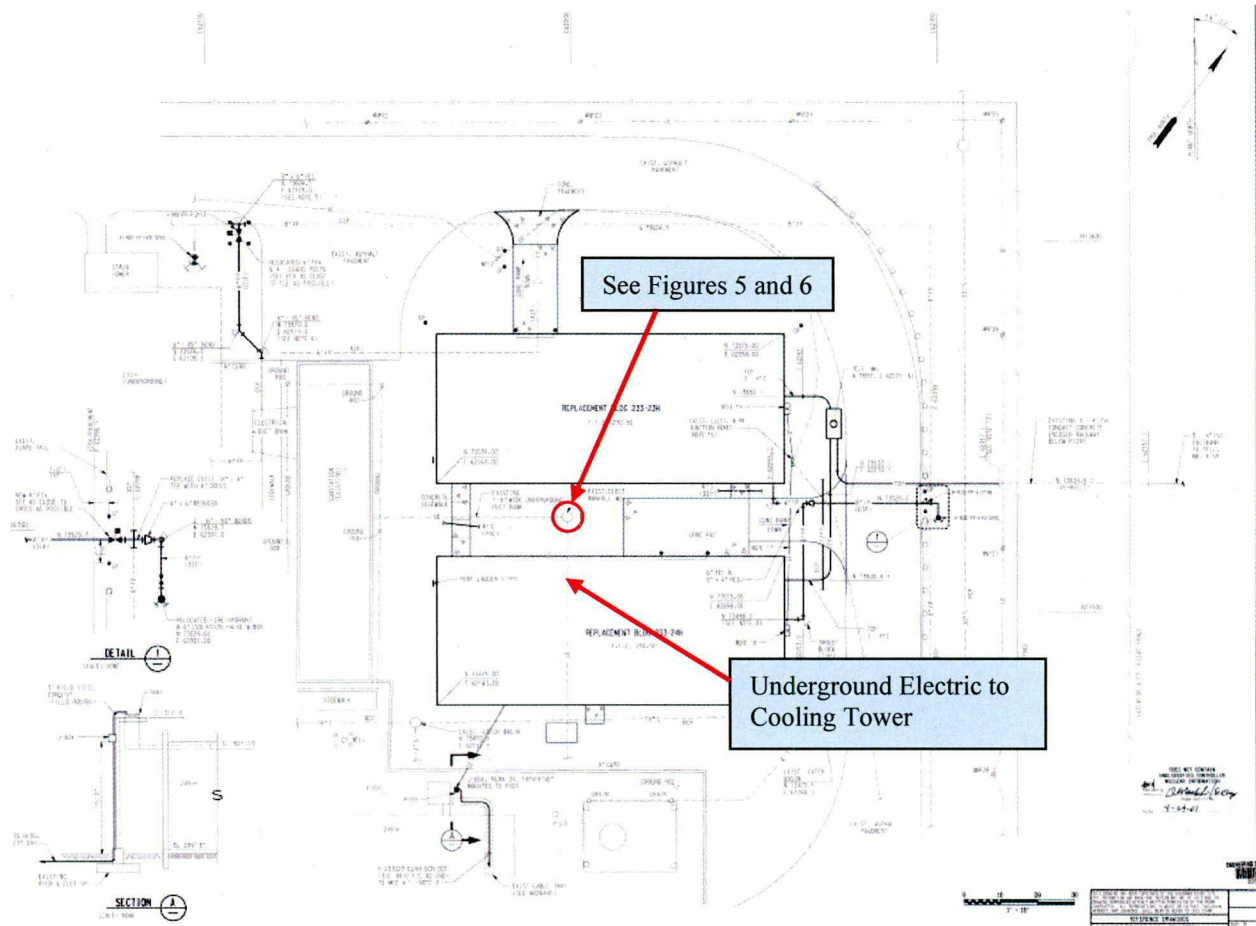


Figure 1: Building 233-23H and Building 233-24H Site Utility Plan

Appendix A – General Layout and Interfacing Facilities

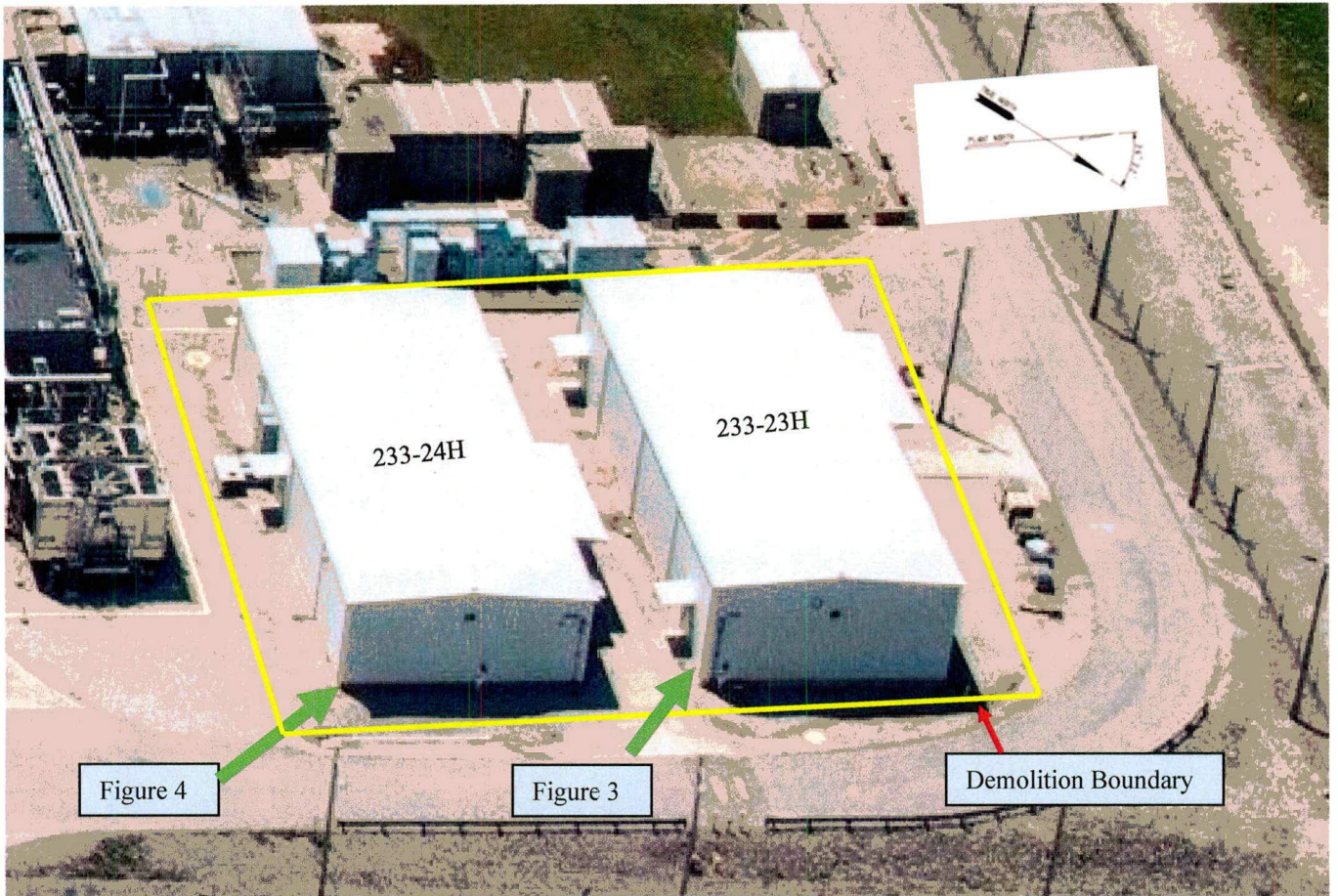


Figure 2: Building 233-22H and 233-24H Aerial View

Appendix A – General Layout and Interfacing Facilities

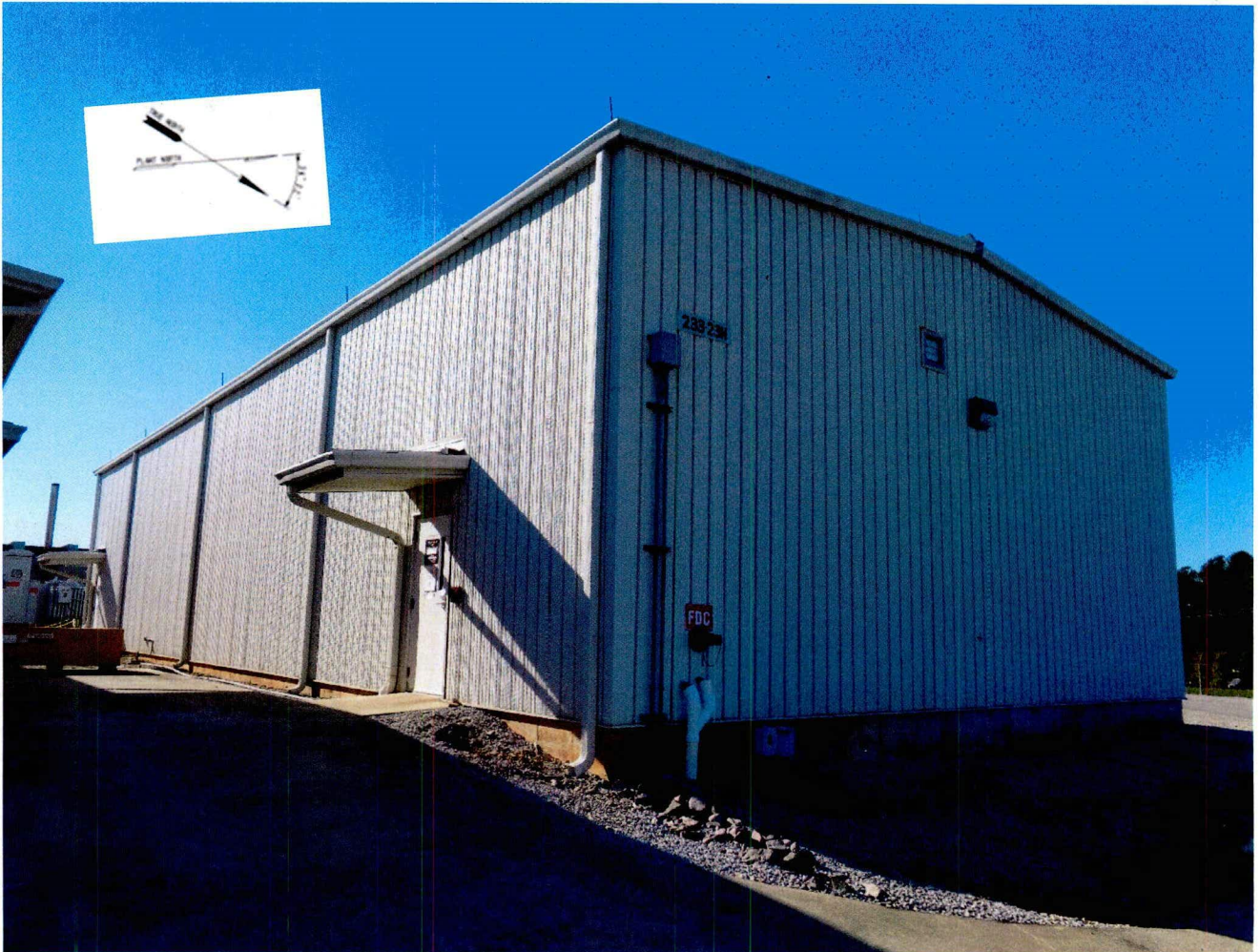


Figure 3: Building 233-23H Looking Northwest

Appendix A – General Layout and Interfacing Facilities

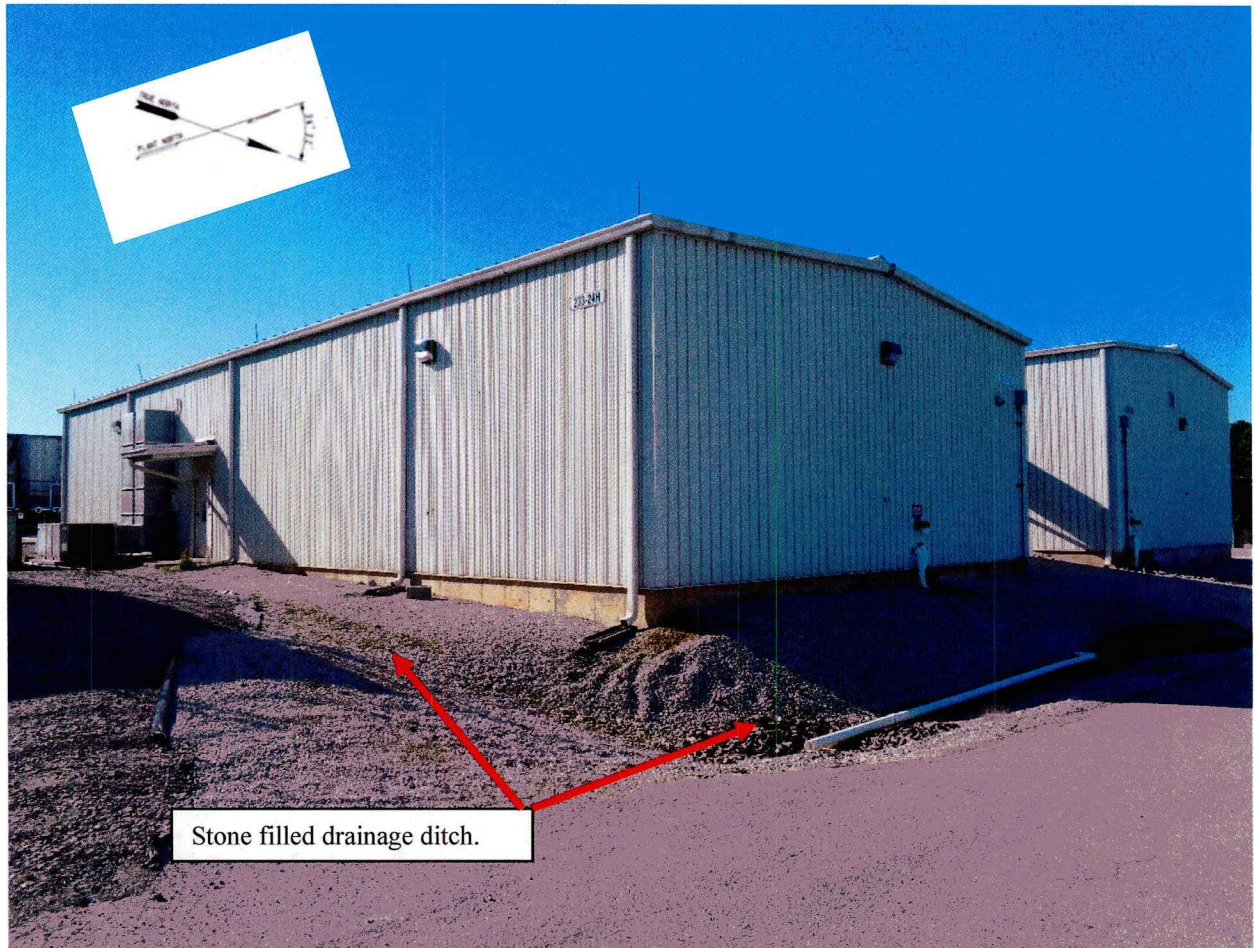


Figure 4: Building 233-24H Looking Northwest (233-23H in background)

Appendix A – General Layout and Interfacing Facilities

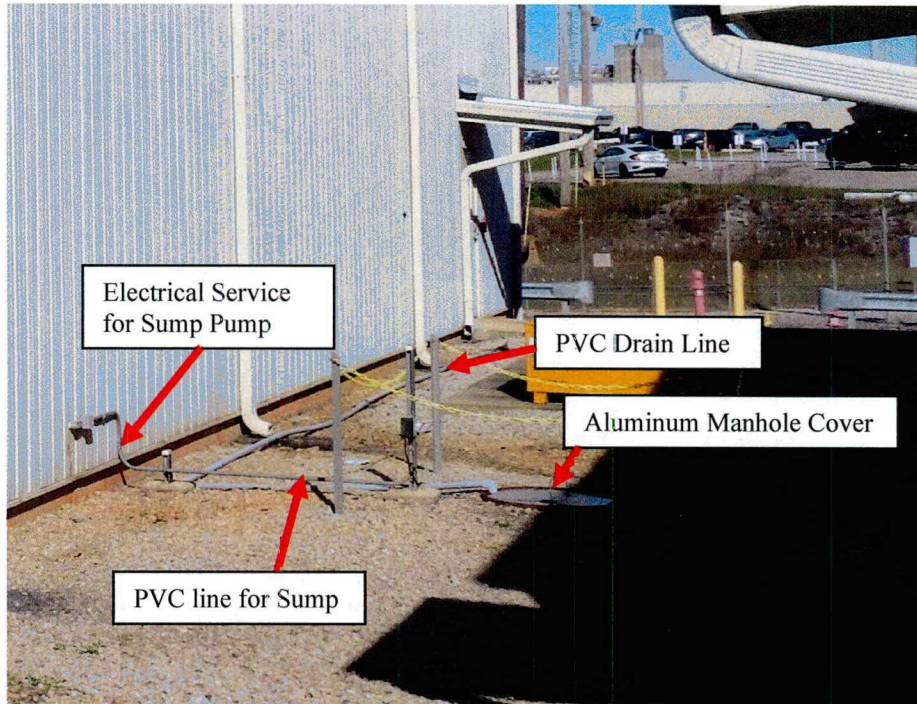


Figure 5: Manhole Between Buildings 233-23H and 233-24H

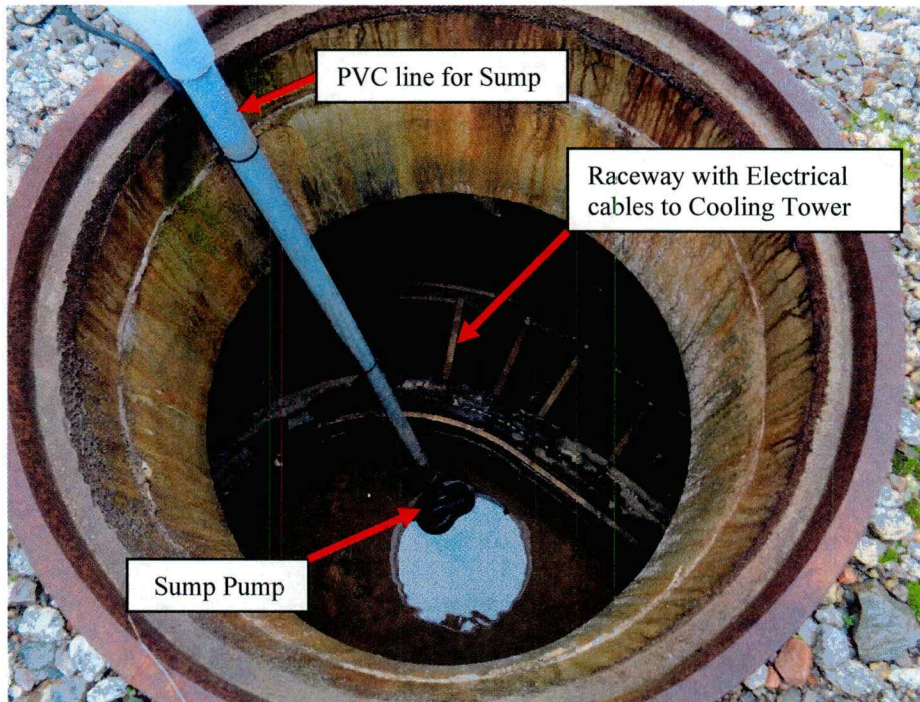


Figure 6: Inside Manhole Between Buildings 233-23H and 233-24H