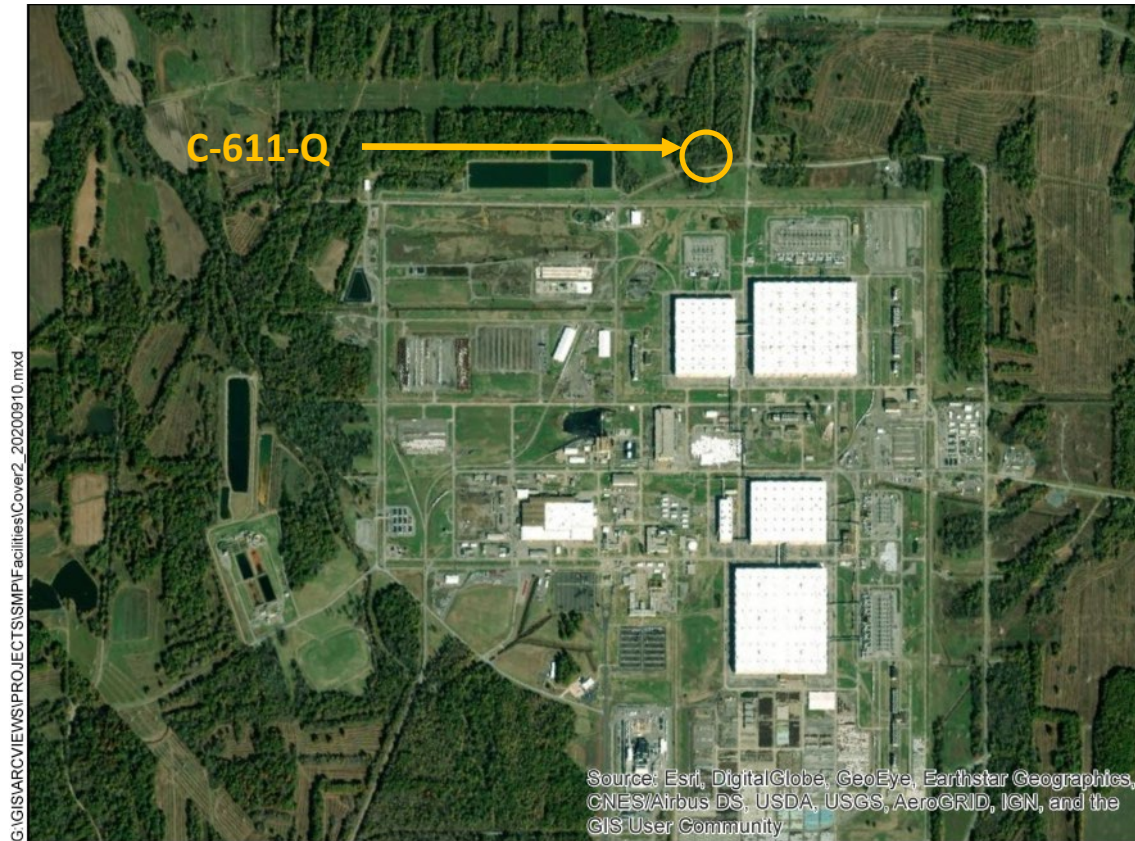


C-611-Q 36" Raw Water Line Booster Station



Facility Overview Briefing

March 22, 2021*

Reflects consultation with EPA and Kentucky in accordance with the Site Management Plan that occurred on March 17, 2021, and includes incorporation of comments from those discussions

*Pages 3 and 6 of this briefing package were updated January 17, 2024, with additional information (shown in redline).

Purpose

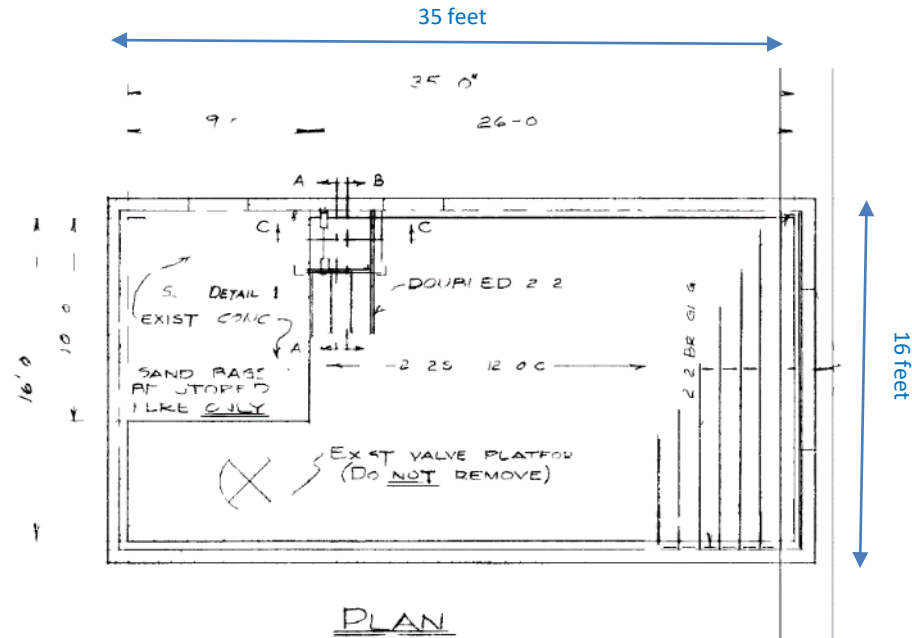
- The C-611-Q 36-inch Raw Water Line Booster Station is a candidate for future demolition and disposal, contingent upon funding priorities.
- Listed in Appendix 6 of the Site Management Plan (SMP); requires consultation with EPA and Kentucky for CERCLA screening prior to demolition.
- This presentation is intended to serve as consultation, providing the basis for demolition and disposal of the aboveground structure outside of the FFA/CERCLA process.
- The remaining slab, sump/basement area, and soils will be subject to a future CERCLA evaluation under Geographical Area (GA) 8.



C-611-Q Facility Photo: 7/2020

Construction History

- C-611-Q is located outside the Paducah Site security fence and the Property Protection Area, near the intersection of Old Ogden Landing Road and the Landfill Access Road. It is north of C-335 and east of C-616-E.
- A construction update to the C-611-Q facility occurred in 1955.
 - ❑ C-611-Q was part of a sizable upgrade to the Water Treatment Plant and No. 1 Raw Water line that was originally constructed for the Kentucky Ordinance Water Works (KOW) in 1942.
- The facility is constructed of unit masonry with a **small** basement/sump area measuring approximately **6 ft x 6 ft x 10 ft deep**.
 - ❑ Approximately 80% of the facility contains a wooden floor with a small concrete pad measuring ~ 6 ft x 8 ft on north west corner.
- The facility is approximately 560 ft².
 - ❑ Measuring ~16 ft x ~35 ft.



Floor Plan View: Excerpt from Engineering Drawing C-PA-P4113, dated 1954

Operational History

- C-611-Q operated as a raw water line booster station for the No. 1 Raw Water Line from the 1950s – 1960 to pump water from the Ohio River to the Paducah Site Water Treatment Plant.
- In 1960, the No. 2 Raw Water Line was installed and the No. 1 Raw Water line (which included C-611-Q) set idled until approximately 1978/1979.
- In 1978/1979, the No. 1 Raw Water Line was cleaned and refurbished for use; however, C-611-Q was not brought on-line and was no longer considered part of the No. 1 Raw Water Line.
- After 1978/1979, C-611-Q was used to store various types of equipment used to support the Water Treatment Plant.
- USEC leased the facility in the early 1990s and continued to use C-611-Q as a temporary storage facility.



Operational History

- C-611-Q transitioned from USEC to DOE in 2014.
- In December 2020, DOE determined that C-611-Q was no longer required for storage.
- Miscellaneous items were removed from the facility and properly disposed of or targeted for re-use or transfer to Paducah Area Community Reuse Organization (PACRO); no RCRA items were discovered.
 - ❑ Pipe insulation
 - ❑ Flanges
 - ❑ Pipe and pipe spools
 - ❑ Metal flashing
 - ❑ Fiberglass covers
 - ❑ Large steel piping
- The facility has been locked and posted with signage restricting entry.



C-611-Q Facility Photos: 7/2020 and 12/2020

Current Status

- C-611-Q is no longer operational nor is it used for a storage facility to support the Water Treatment Plant.
- Walkdown inspection conducted in December 2020 and employee interviews confirmed the following conditions.
 - Sump/basement area (~~measuring ~6 ft x 6 ft~~)* is typical of a water booster station.
 - Pump and sump pump have been removed.
 - Sump/basement area contains some water.
 - No floor drains.
 - No known chemical spills.
 - No radiological contamination.
 - Roofing material is transite and contains asbestos-containing materials.
 - Facility has been disconnected from power.
 - No Generator Staging Area (GSA) or Satellite Accumulation Area (SAA).

Vent Pipe



Pump Pad Area



Basement/Sump Area



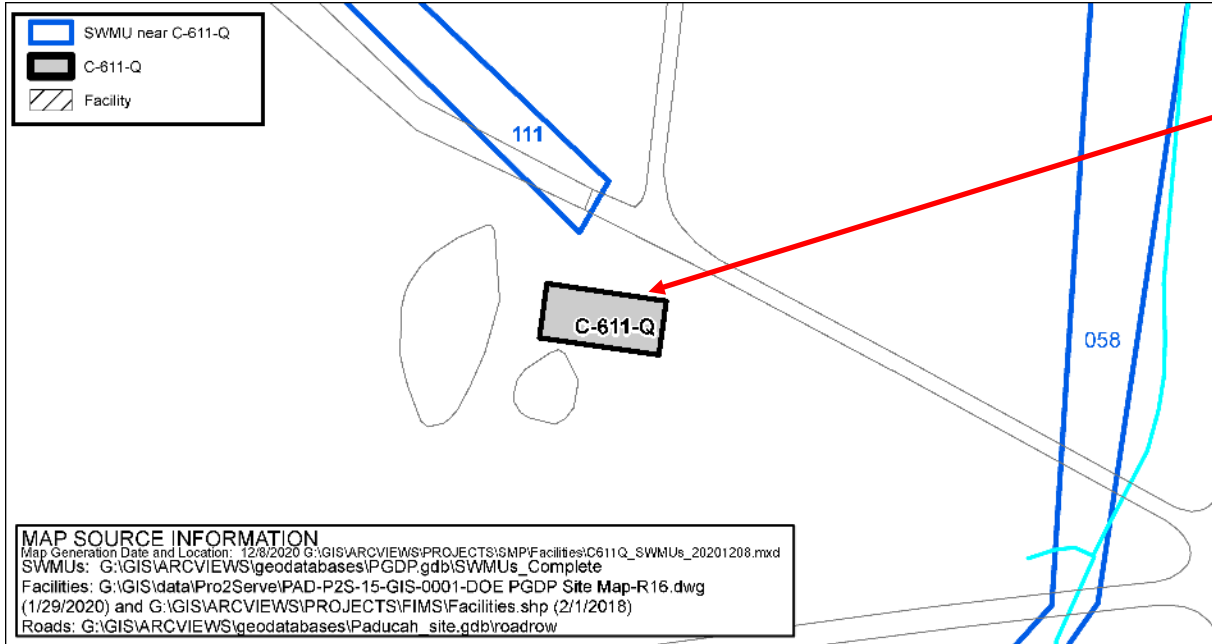
West Side View



East Side View

*Note that a subsequent walkdown, conducted in November 2023, corrected the basement as being the entire area of the building.

Environmental Impacts (Solid Waste Management Units)



The C-611-Q 36" Raw Water Line Booster Station is not designated as a SWMU/AOC.

SWMU No.	Facility Name	Current Status	NFA Approval By
058	NSDD (Outside) (includes KPDES 003)	SWOU Removal	
111	Concrete Rubble Pile (9)	NFA	EPA and KY via WAG 17 ROD 9/29/1997

Environmental Impacts

- No information to indicate a release or threatened release of a hazardous substance that would require an evaluation for a potential response action to protect future public health or welfare or the environment.

- ❑ C-611-Q was operated as a raw water booster station from the 1950s – 1960 and a storage facility to store various types of equipment used to support the Water Treatment Plant from 1978/1979 to 2020; C-611-Q currently is no longer in use.

- ❑ Building materials used for construction could contain lead-based paints and asbestos materials, both of which can be effectively verified during a predemolition inspection and properly managed using standard demolition and waste management practices.
 - C-611-Q roofing material is transite known to be made up of asbestos-containing material.

- ❑ No history or records of chemical use or spills that would pose environmental release threat.
 - Water remaining in the basement/sump area can be attributed to either rainwater infiltration, groundwater infiltration, or water line leakage.
 - C-611-Q is not located within the footprint of the NE/NW Plume and any groundwater present would not be assumed to be contaminated.

Conclusion and Recommendations

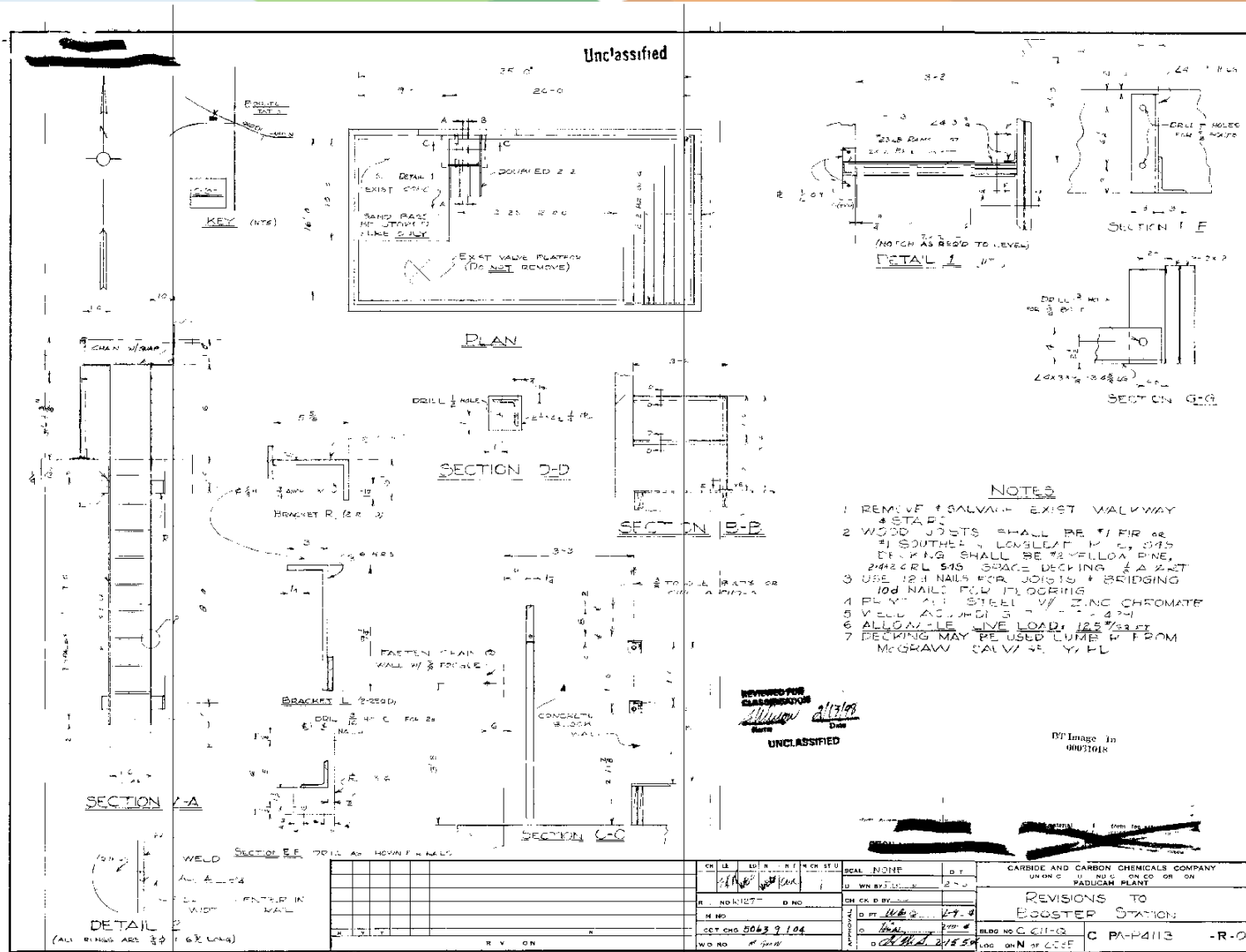
- Walkdown inspection of the facility, employee interviews, and other reviewed historical information did not identify any unusual conditions that would pose a potential threat of environmental release during future demolition of the aboveground structure.
- Subject to completion of deactivation and availability of funding, proceeding with demolition and disposal of the C-611-Q facility (aboveground structure) outside of the FFA/CERCLA process, contingent upon the fact that no additional changes have occurred that would affect the CERCLA determination of the facility prior to demolition, is recommended.
- All applicable laws, regulations, and DOE procedures/protocols will be followed to ensure the demolition and disposal of the aboveground structure occurs in a safe, compliant manner, including conducting any additional radiological characterization through confirmation radiological surveys (as necessary) to support demolition and waste disposition.

Conclusion and Recommendations

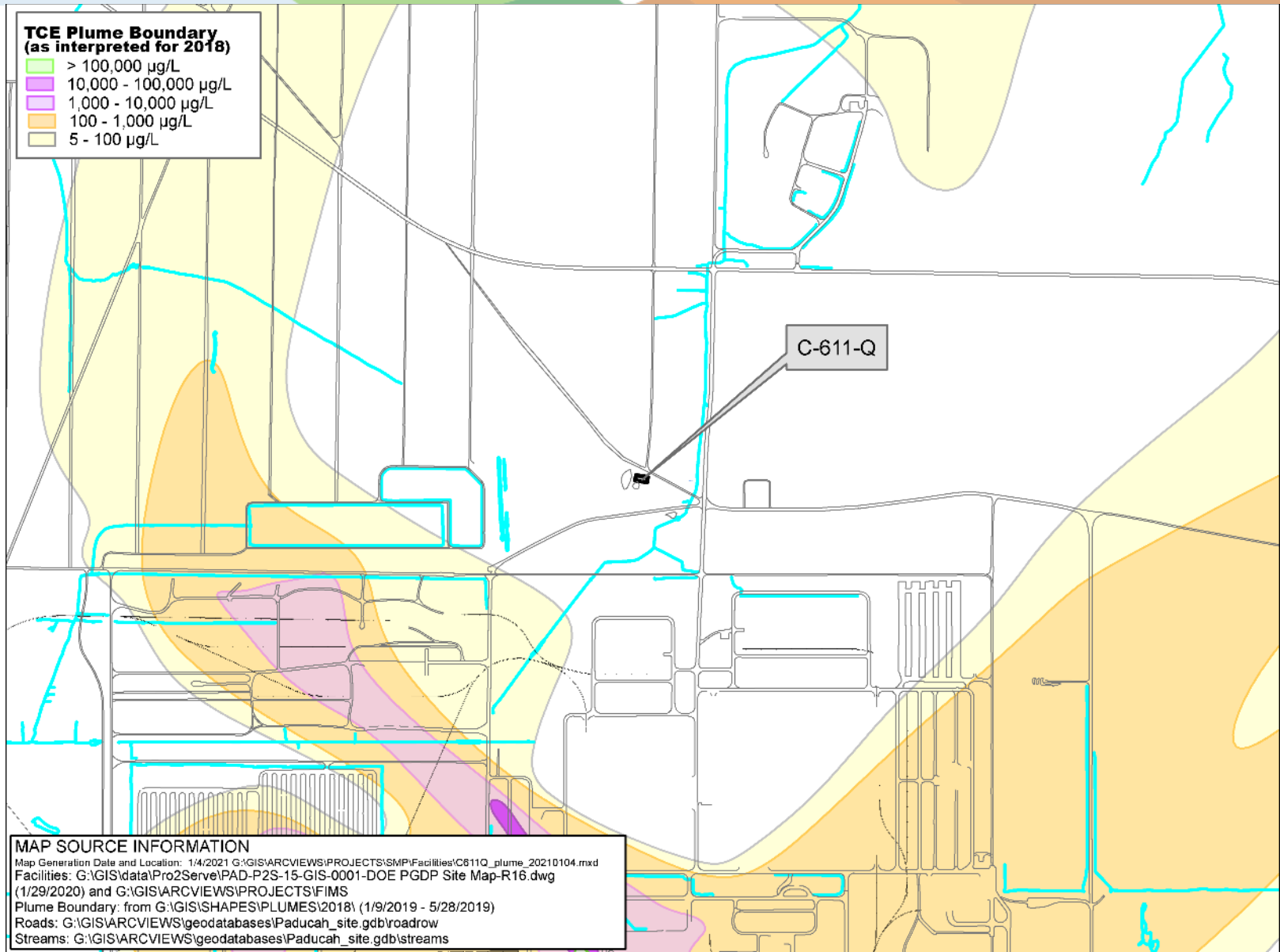
- As part of the demolition of the aboveground structure, the appropriate best management practices (BMPs) will be evaluated and implemented (as needed) to prevent/minimize the pooling and/or migration of storm water that may come into contact with any contamination that may exist on the pad/subsurface structure(s). For example, the following BMPs will be implemented as necessary:
 - ❑ Radiological surveying will occur following demolition.
 - ❑ Decontamination and/or application of fixatives will be applied to contaminated surfaces above regulatory posting limits.
 - ❑ Isolation measures and other types of barriers to minimize and/or control runoff/pooling of contaminated storm water (e.g., seal inlets to drains/sumps/subsurface structure(s)).
- Removal of the C-611-Q facility will be documented in the appropriate annual SMP revision.
- The future evaluation conducted for GA 8 will further evaluate the potential threat of release associated with the slab, sump/basement area, and soils from the C-611-Q facility.

BACKUP INFORMATION

C-611-Q Engineering Drawings

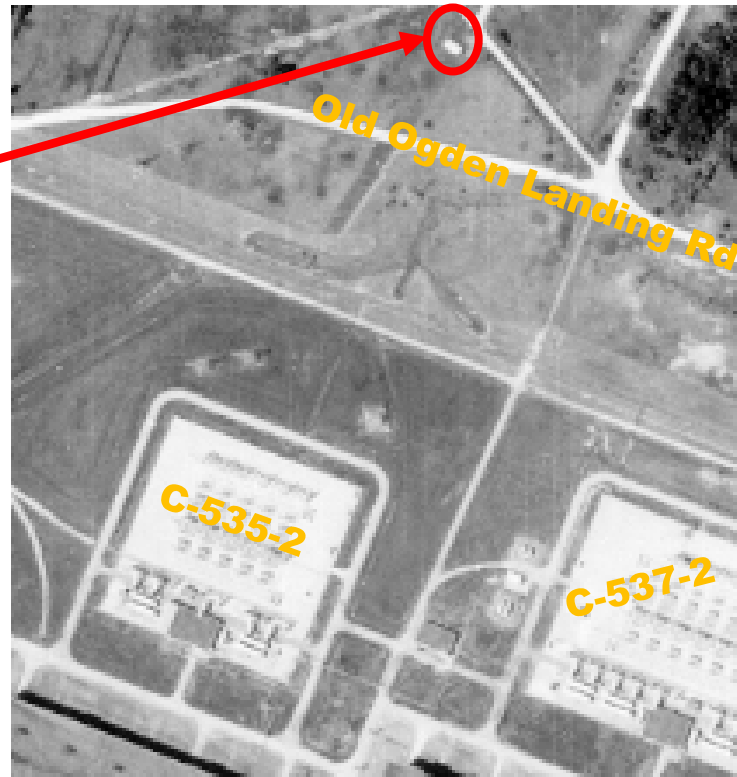


C-611-Q With Plume Overlay



C-611-Q Aerial Photograph

C-611-Q



Modified from Aerial Photo: May 14, 1971 (ADZ-411-Z)

C-611-Q Sources

- Engineering Drawings:
 - Provided in presentation
- Databases:
 - USEC's BPS
 - Issues Management System
 - Regulatory Compliance Archive Spill Log (pre-2018)
 - PCB Database (1989 – 2021)
 - Active GSAs and SAAs Master List
 - Asbestos Walkdown (October 2020)
- Employee Interviews:
 - Facility Manager (42 years plant expertise)
 - Utility Operations Subject Matter Expert (45 years plant expertise; operator/manager/supervisor)
 - Compliance Subject Matter Expert (45 years plant expertise; trained on system)
- Documents:
 - Paducah Gaseous Diffusion Plant Sitewide Strategy Facility Background Information. FPDP-RPT-0021, May 2016
 - Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to the United States Enrichment Corporation DOE/OR/1087&V5 (June 1993)