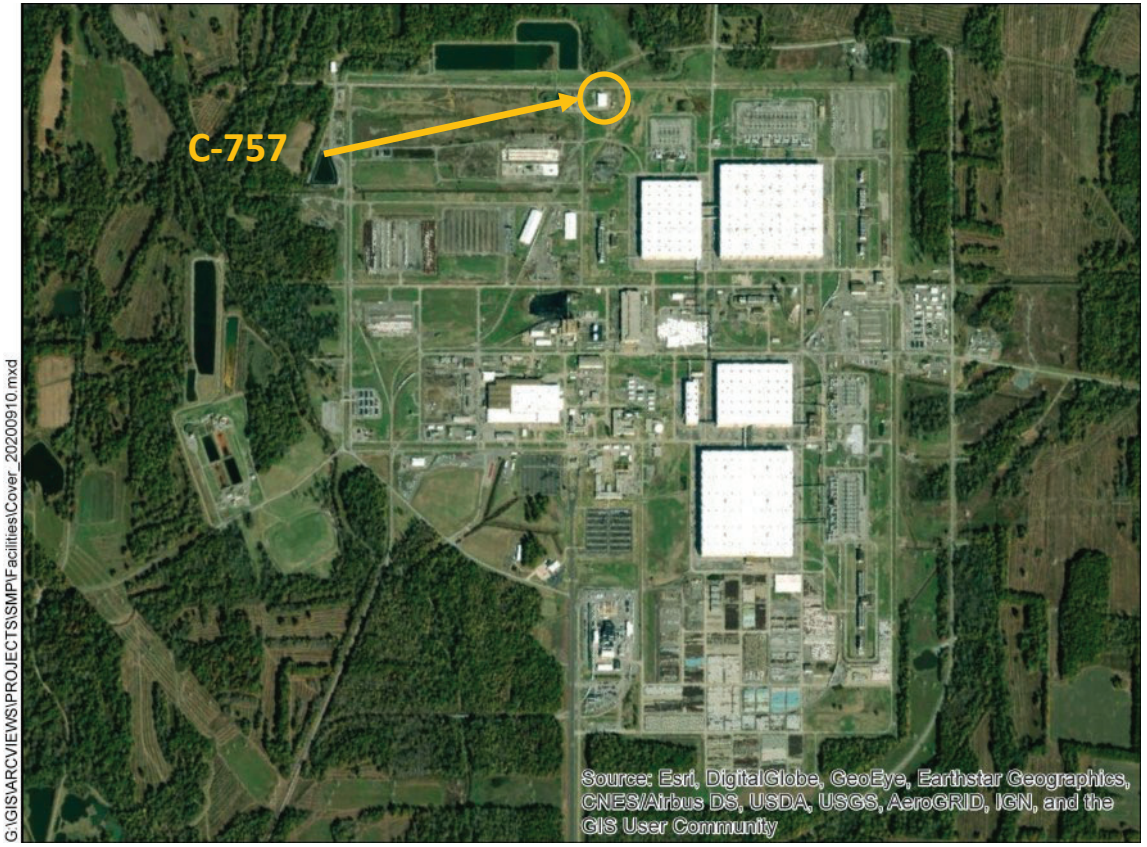
C-757 Solid and Low-Level Waste Processing Facility



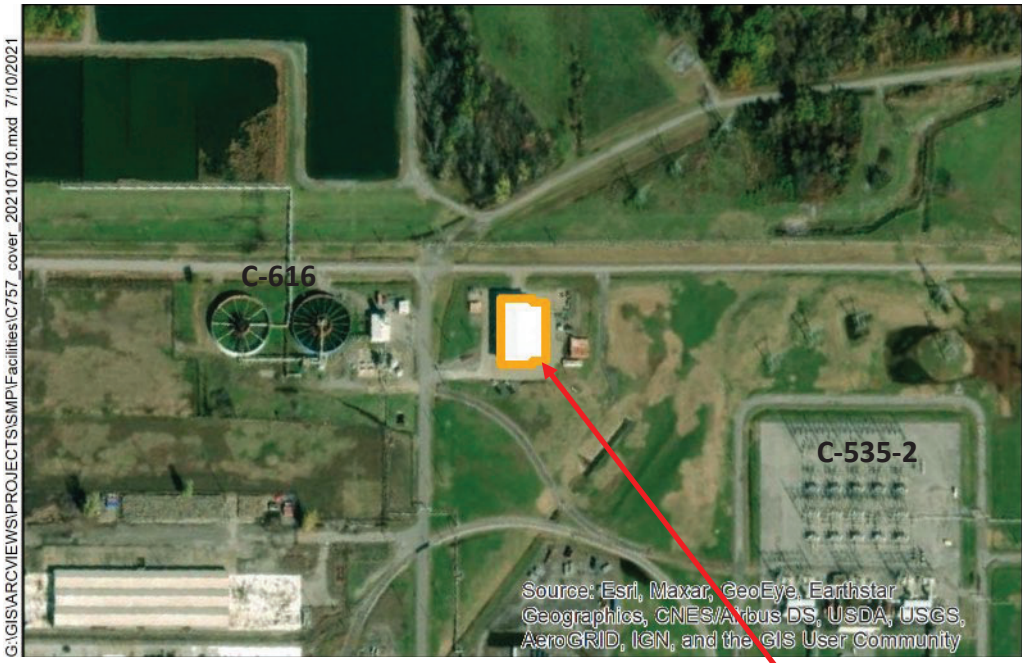
Facility Overview Briefing

November 9, 2021

Reflects consultation with EPA and Kentucky in accordance with the Site Management Plan that occurred on October 25, 2021, and includes incorporation of comments from those discussions.

Purpose

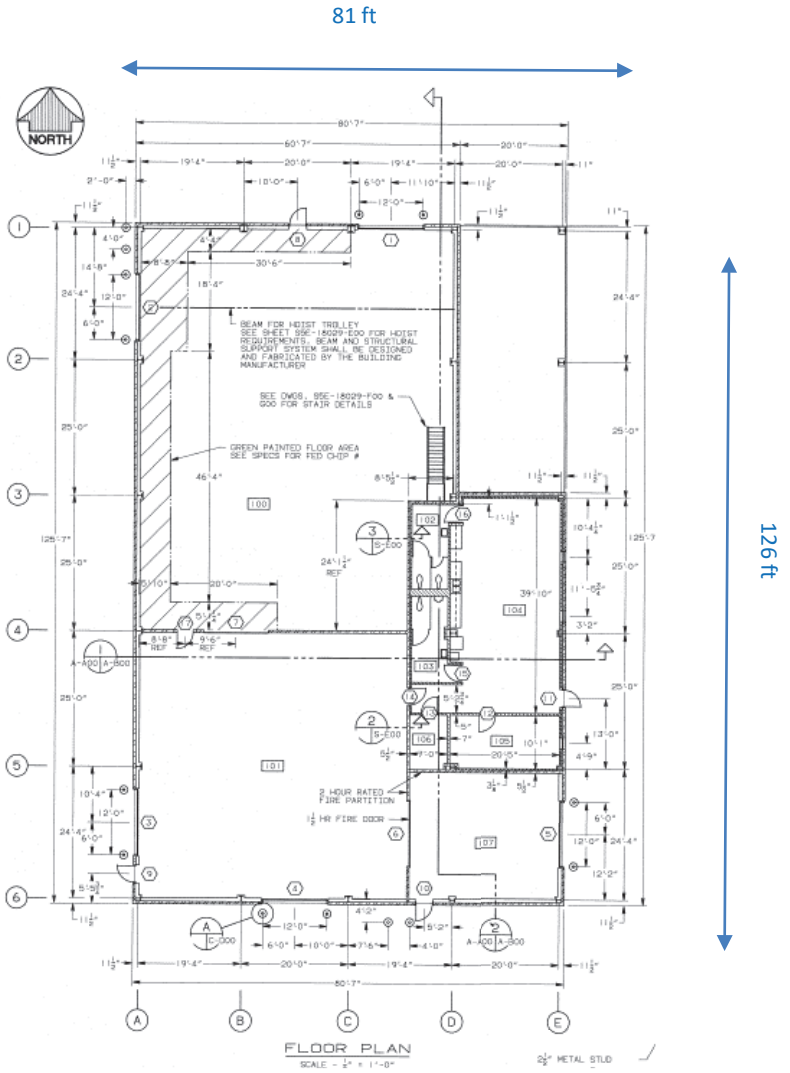
- The C-757 Solid and Low-Level Waste Processing facility is a candidate for future demolition and disposal, contingent upon funding priorities.
- Listed in Appendix 6 of the Site Management Plan (SMP); requires consultation with EPA and Kentucky for CERCLA screening prior to demolition.
- This presentation 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/soils will be subject to a further CERCLA evaluation as part of a future integrated site evaluation conducted under Appendix 4 of the SMP.



C-757 Facility Photo: 7/2021

Construction History

- C-757 is located within the Paducah Site security fence, east of the C-616 Chromate Reduction facility.
- The facility was constructed in 1996.
- The facility is a prefabricated metal structure on an 8-inch concrete slab.
  - The facility has multiple points of entry (pedestrian and roll-up doors) and houses a mezzanine along the east wall of the north processing area.
  - The facility is divided into 8 main sections.
    - North Processing Area
    - South Processing Area
    - South East Interim Storage Area
    - Women's Restroom
    - Men's Restroom
    - Break Room
    - Office
    - Mechanical/Electrical Room (Janitorial)
  - A separate 300 kVa, 14 kv/480V dry-type transformer located on the west side of the facility provides power to the facility.
- The entire facility is approximately 10,206 ft^2.
  - Measuring ~126 ft x ~81 ft.



Floor Plan View: Excerpt from Engineering Drawing A5E-18029-A00_0001_000B_U-048420, dated 1996

Operational History

- C-757 was originally designed in 1994 and built in 1996 to operate as a solid low-level waste processing building.
  - The north and south processing bays were separated by an internal partition; allowing for separation of radiological and nonradiological sorting activities.
  - The south east bay was designed as a baled waste interim storage area.
  - The entrance to each of the bays was designed to allow a dumpster truck to enter the building and dump material onto sorting tables/beds.
  - The mezzanine was equipped with lockers and used as a change area.
  - The facility also housed breakroom, restroom, and office areas.
- USEC leased the facility in 1996; initially using the facility for the sorting/compacting of sanitary trash, shredding of tires, and an office/change out/breakroom area.

North Processing Bay

South East Bay

Mezzanine

300 kVa, 14 kv/480V Dry-type Transformer

C-757 Facility Photos: 7/2021

Operational History

- In 1998, USEC converted the north processing bay and south east bay into 90-day RCRA accumulation areas.
  - The north bay 90-day RCRA accumulation area was designated as a radioactive material area (RMA) and used as a sorting area to inspect and sort low-level radioactive waste and potentially hazardous waste for further processing and storage.
  - The south east bay 90-day RCRA accumulation area was established as a temporary staging area with secondary containment for various types of hazardous liquids (e.g., ignitables, acids/corrosives, F-listed, etc.) and was designated as a RMA.
    - Any spills were contained and managed within the secondary containment.
    - No known releases occurred.
    - Secondary containment and 90-day RCRA accumulation area dismantled prior to transition of the facility to DOE in 2014.
  - The waste from both bays were managed in accordance with 40 CFR § 262.17.
- In 1998, the mezzanine was converted to include a non-destructive assay (NDA) calibration grid system used to calibrate slab detectors (no sources are stored in this area).
- Beginning in 2009, the north bay 90-day RCRA accumulation area was also used to perform volume reduction of nonhazardous fluorescent bulbs using a self-contained bulb crusher/filtration system; reduction activities discontinued at C-757 in 2019 (system currently relocated to C-752-A).
- C-757 transitioned from USEC to DOE in 2014.

South Door Interior Entry to 90-Day Accumulation Area

North East Outside Area – Conveyor and Shredder

C-757 Facility Photos: 7/2021

Current Status

- C-757 remains operational and continues to operate as a solid low-level waste processing building with a 90-day RCRA accumulation area located in the north processing bay.

- Walkdown inspection conducted in July 2021 and employee interviews confirmed no unusual conditions.
  - North processing bay and south east bay posted as a RMAs.
  - North processing bay is a designated 90-day RCRA accumulation area and is inspected every 7 days (south east bay is no longer designated as a 90-day RCRA accumulation area).
  - Mezzanine used for NDA calibration grid system.
  - Transformer (300 kVa; 14 kv/480V) located on west-side of the facility.
    - Transformer is a dry-type transformer and does not contain any oil.
  - One satellite accumulation area (SAA) and two generator staging areas (GSA) are present.
    - SAA - #S-757-01 houses 5 flip top containers for solid hazardous wastes (e.g., nickel/cadmium and lithium batteries, circuit boards, etc.).
    - GSA - #G-757-01 contains non-PCB waste (e.g., light ballast, fuses, etc.).
    - GSA - #G-757-03 contains PCB waste (e.g., light ballast, fuses, etc.).
    - Other staging areas are located within the 90-day area for collection of items (lead acid batteries, bulbs, aerosol cans, etc.).

Satellite Accumulation Area

Generator Staging Area

Fluorescent Bulb Storage Within 90-Day Accumulation Area

C-757 Facility Photos: 7/2021

Current Status

- Walkdown inspection conducted in July 2021 and employee interviews confirmed no unusual conditions (Continued).
  - Floor drains associated with the men's and women's restroom, ice machine, and mechanical/electrical/janitorial room drain tie into the common sanitary line that exits out the west side of the facility.
  - No sumps or pits are present.
  - Flammable cabinet containing aerosol sprays (e.g., insect repellant, spray paint, Rustoleum, WD-40, etc.) stored in small quantities and in accordance with regulatory requirements and site procedures.
  - Various storage cabinets and shelving for storage of packaging supplies.
  - Outside area used to store shredder and conveyor.
  - Sulfuric acid spills from waste battery cells leaked onto the concrete floor and plastic within the north bay processing area; small-contained leaks that were immediately addressed.
  - No known chemical spills except for the above noted sulfuric acid spills.

Floor Drain – Mechanical/Electrical/Janitorial Room

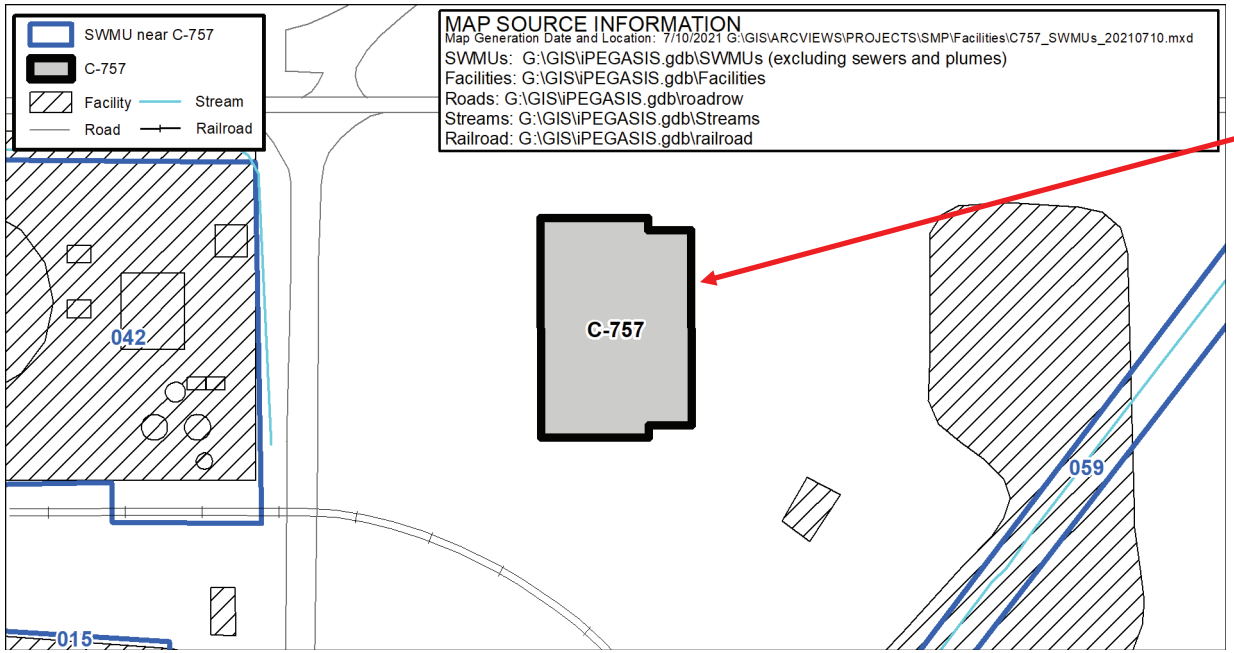
Floor Drain - Restroom

Break Room Area

Flammable Cabinet

C-757 Facility Photos: 7/2021

Environmental Impacts
(Solid Waste Management Units)



- The C-757 Solid and Low-Level Waste Processing Facility is not designated as a SWMU/AOC.

SWMU No.	Facility Name	Current Status
015	C-746-C Scrap Yard	Soils OU
042	C-616 Chromate Reduction Facility slab and underlying soils	Soils and Slabs OU
059	NSDD (Inside)	Final CSOU

Environmental Impacts

- While there is no documented information identifying a known release or threatened release of a hazardous substance to environment, the nature of the operations conducted at the facility (e.g., waste processing) support that an integrated site evaluation be conducted for the remaining slab/soils.

  - C-757 was built and has been operated as a solid and low-level waste processing facility from its construction in 1996 to present; south east processing bay was designated as 90-day RCRA accumulation area with secondary containment for liquid waste from 1998 to 2014; north processing area has been designated as a 90-day RCRA accumulation area for solid waste from 1998 to present and currently houses one SAA and two GSAs.

  - Building materials used for construction could contain lead-based paints and asbestos-containing materials, both of which can be effectively verified during a predemolition inspection and properly managed using standard demolition and waste management practices.

  - 90-day RCRA accumulation areas (one with secondary containment); managed in accordance with applicable RCRA regulations; subject to inspections every seven days; no history or records of chemical use or spills that would pose environmental release threat.

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.
  - Deactivation will include removal of any accessible loose items being stored (to the extent practicable) prior to demolition.
  - Any floor drains will be delineated, documented, and isolated prior to demolition.
- Pending ceasing of operation, deactivation, and availability of funding, proceeding with demolition and disposal of the C-757 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 and/or barriers 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)).

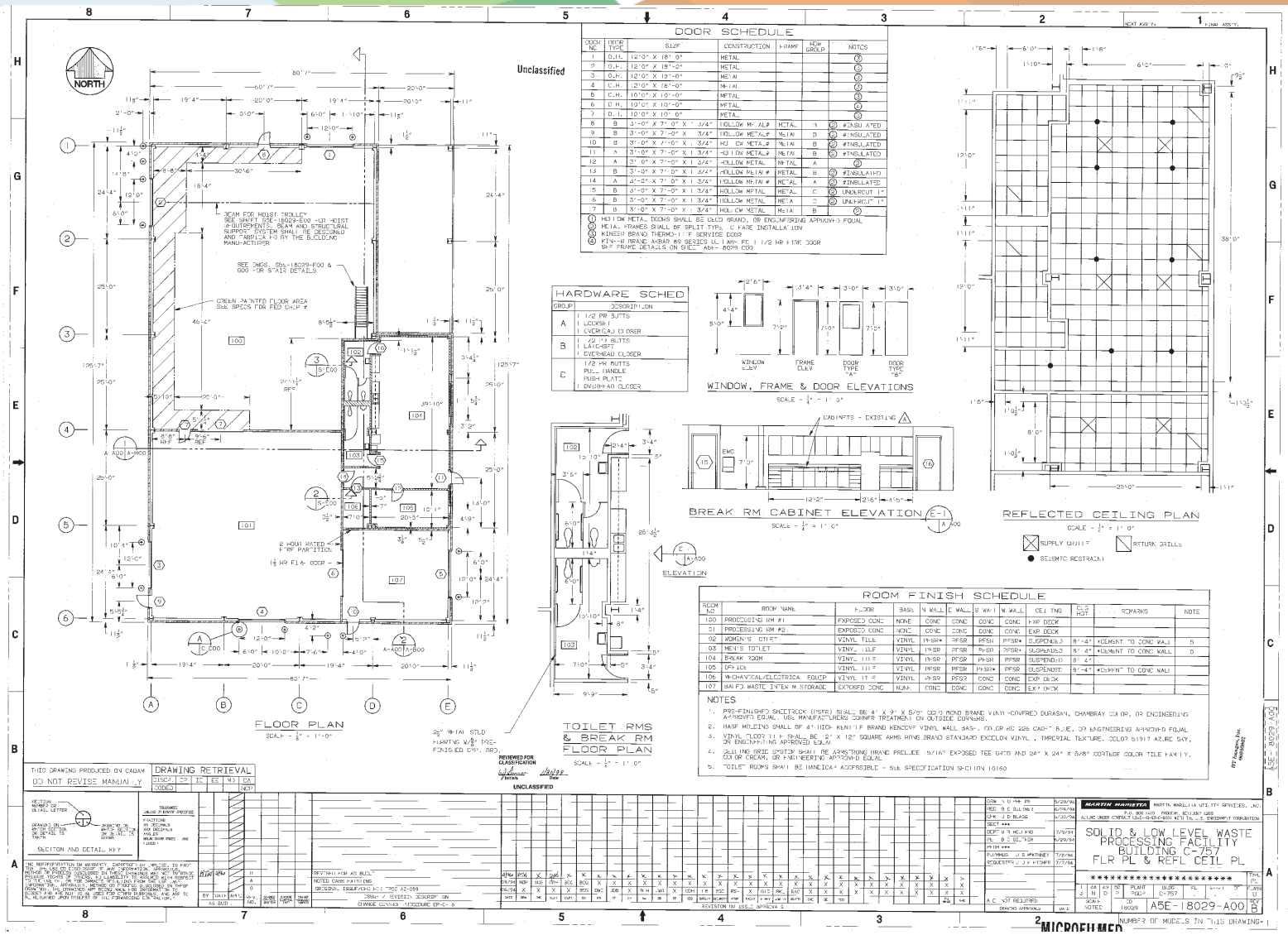
- Based on routine management of waste over an extended period of time at C-757, it is recommended that the remaining slab/soils be subjected to an integrated site evaluation.

- Removal of the C-757 facility will be documented in the appropriate annual SMP revision.

C-757 Solid and Low-Level Waste Processing Facility

BACKUP INFORMATION

C-757 Engineering Drawings



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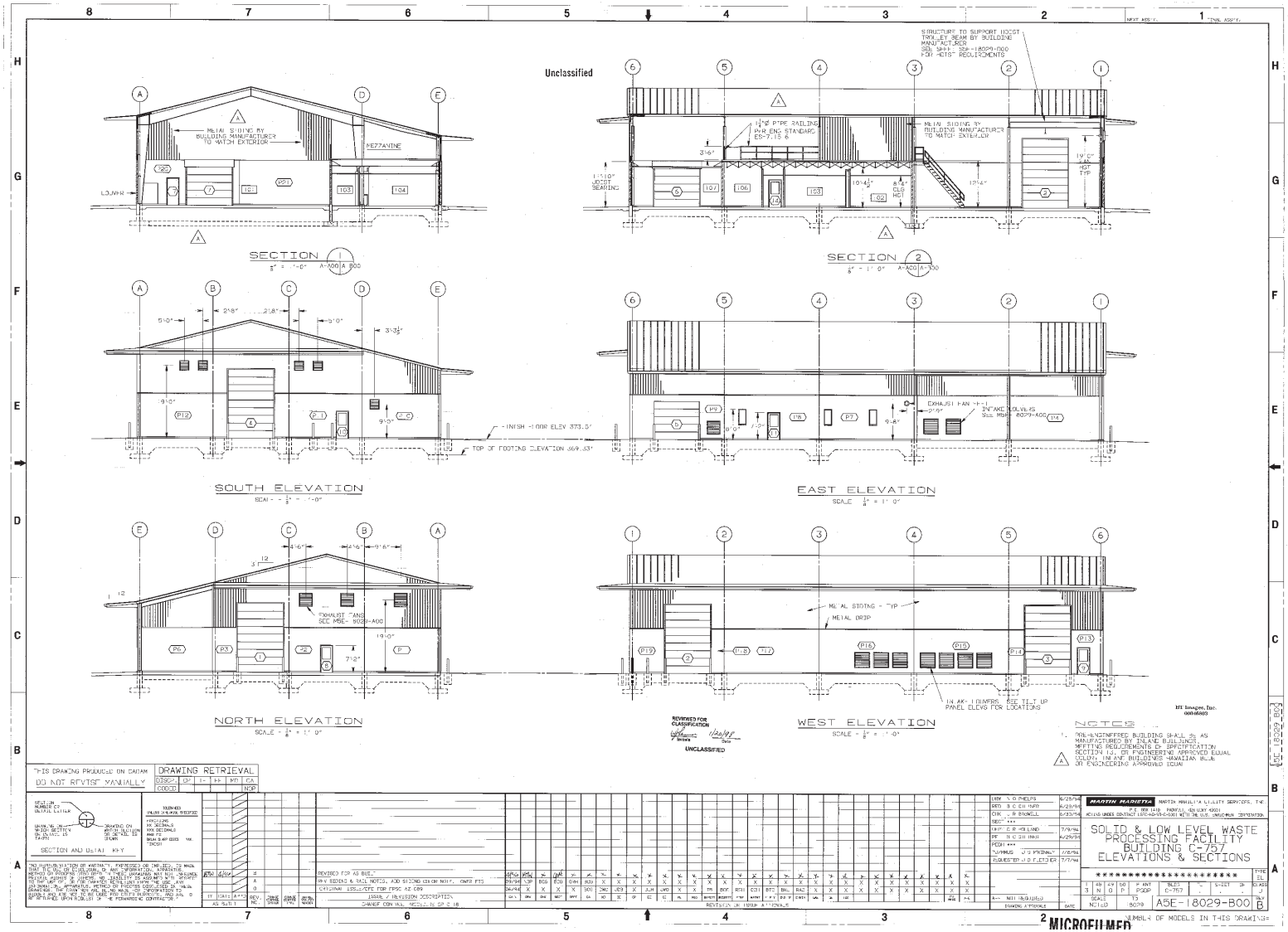
C-757 Engineering Drawings



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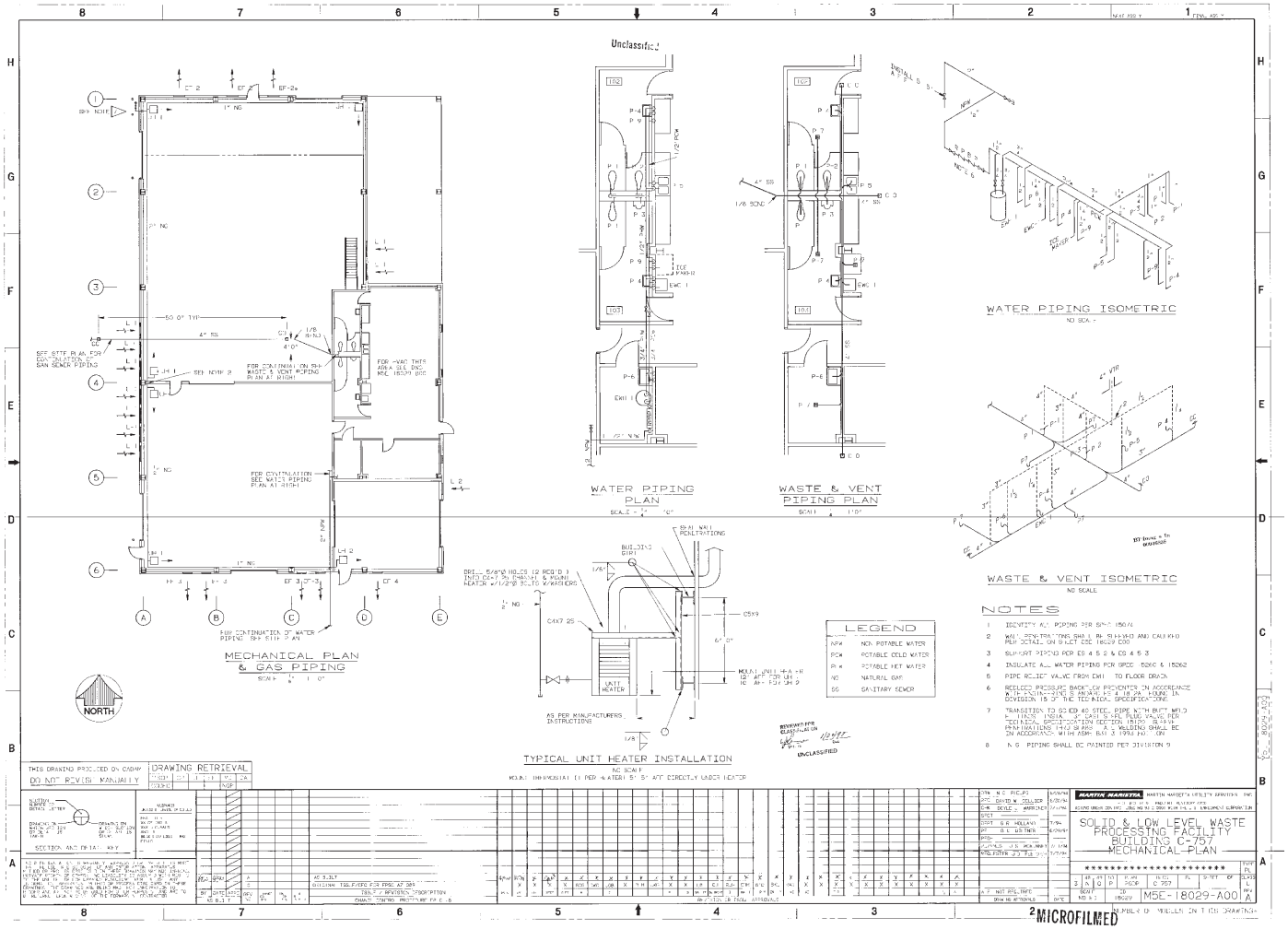
C-757 Engineering Drawings



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C-757 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 (4 years expertise)
  - Waste Management Subject Matter Experts (31 years plant expertise; 32 years plant expertise)
  - Waste Management/Compliance Subject Matter Expert (27 years plant expertise)
  - 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
  - Fluor Federal Services, Inc., Paducah Deactivation Project Comprehensive Environmental Compliance Due Diligence Review, CP5-ES-0101
  - Safety Analysis Report, United States Enrichment Corporation, SAR-PGDP, Revision 8, April 15, 1997