

# DEACTIVATED SM-1A NUCLEAR POWER PLANT DECOMMISSIONING AND DISMANTLEMENT

## Project Overview For Alaska Forum for the Environment

10 Feb 2022

Program Manager: Brenda M. Barber, P.E. | U.S. Army Corps of Engineers

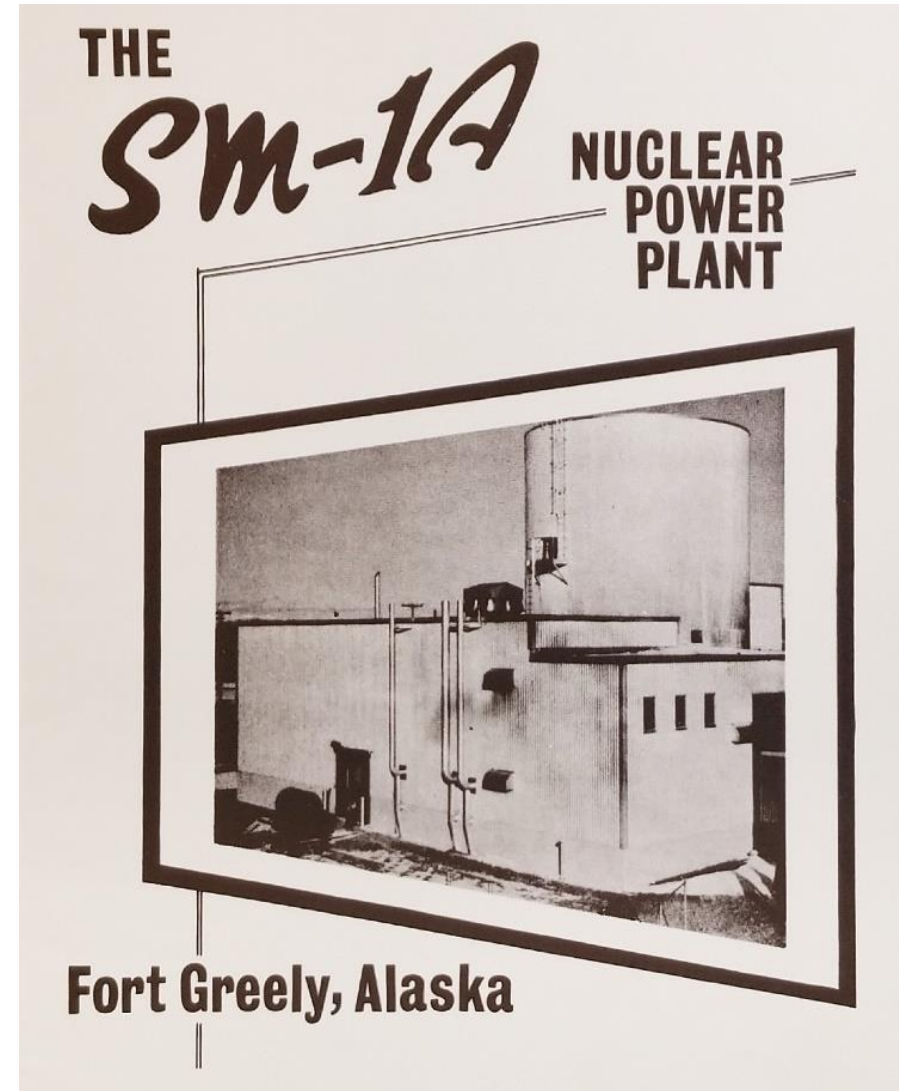


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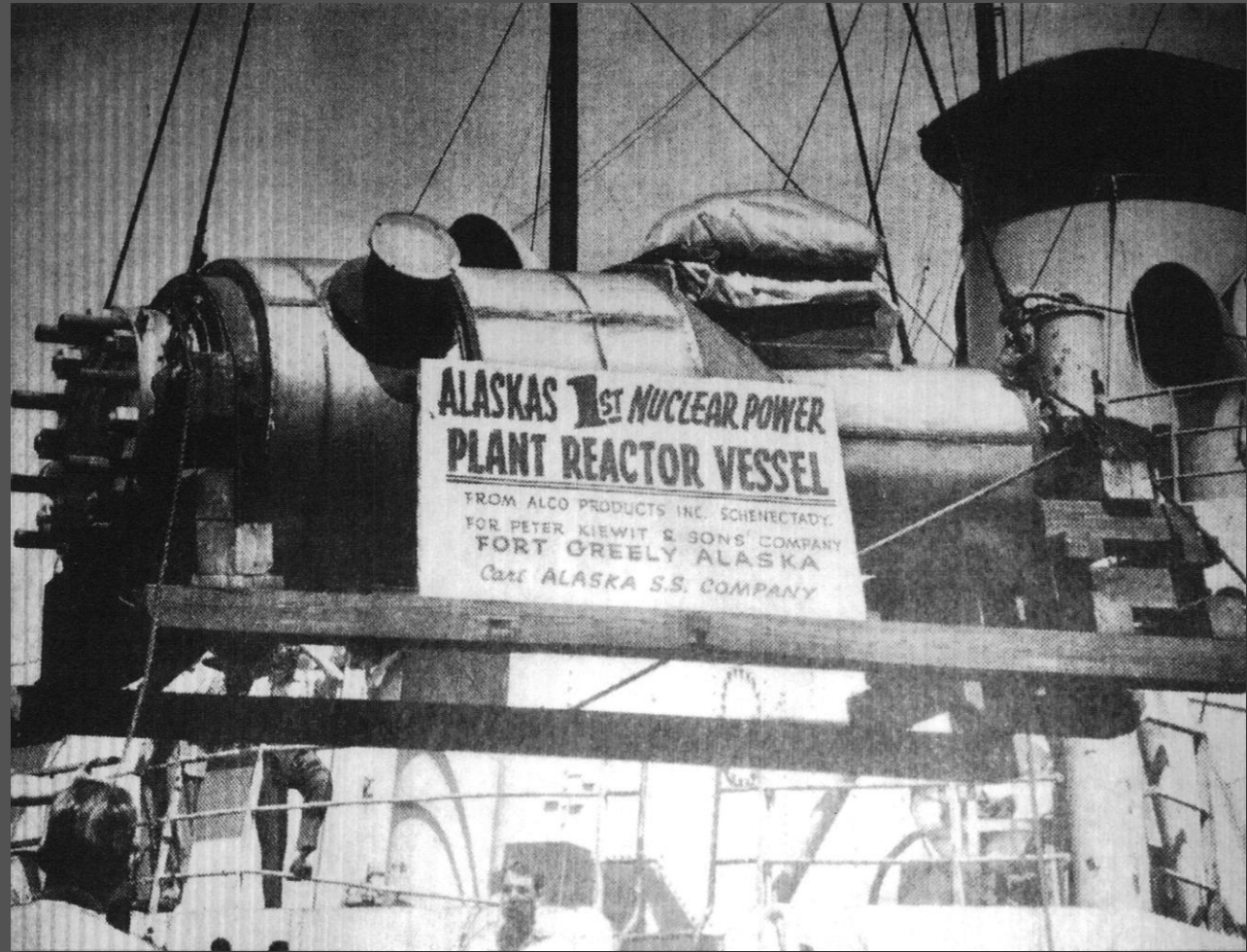


# TODAY'S KEY TOPICS

- SM-1A Operational History
- Decommissioning Planning
  - NEPA
  - Section 106
  - Decommissioning Plan
- Utility Separation Project
- Contract Acquisition
- Closing Remarks



# OPERATIONAL HISTORY OF SM-1A



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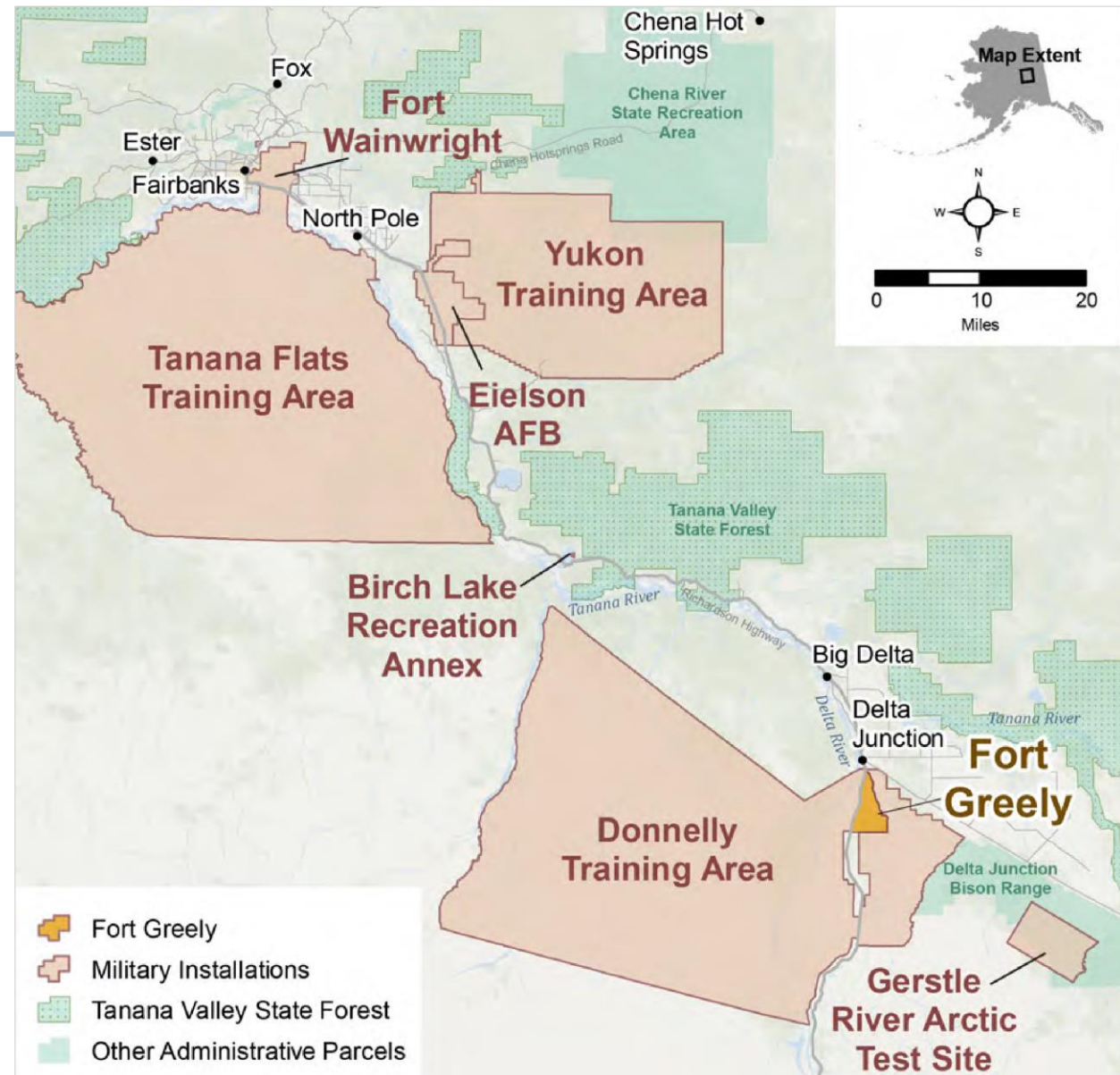




# FORT GREELY LOCATION

Distances from Fort Greely:

- Delta Junction – 5 miles
- Fairbanks – 100 miles
- Valdez – 263 miles
- Anchorage – 328 miles
- Whittier – 386 miles



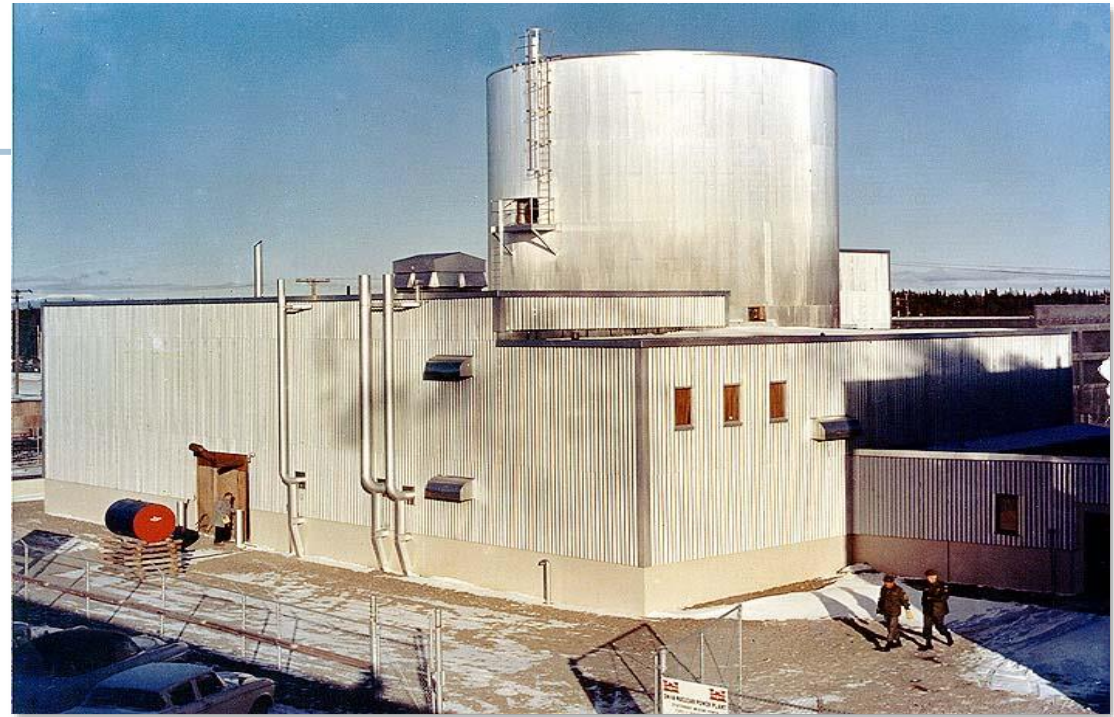
# FORT GREELY





# SM-1A OPERATING HISTORY

- Built on Fort Greely between 1958 and 1962.
- Designed, constructed, and operated as part of the Army Nuclear Power Program.
- Single-loop, 20.2 MW pressurized water reactor.
- Used highly enriched uranium dioxide fuel to generate 2,000 kW of electrical power and 37,850 pounds of extraction steam per hour.
- Supplied electrical power and heating steam for on-post buildings and facilities from 1962 to 1972.
- Used as an in-service test facility to understand how equipment functions in an arctic environment.



# SM-1A DEACTIVATION AND ENCASEMENT HISTORY

- The decommissioning process began upon the reactor's final shutdown in March 1972.
- Initial deactivation consisted of placing the facility in a safe storage (SAFSTOR) configuration, after which it was maintained and monitored in a condition that allows radioactivity to decay over time.
- Regular inspection and monitoring is conducted by USACE in accordance with AR 50-7 and SM-1A Reactor Possession Permit Number SM1A-1-19, Amendment 1-20.

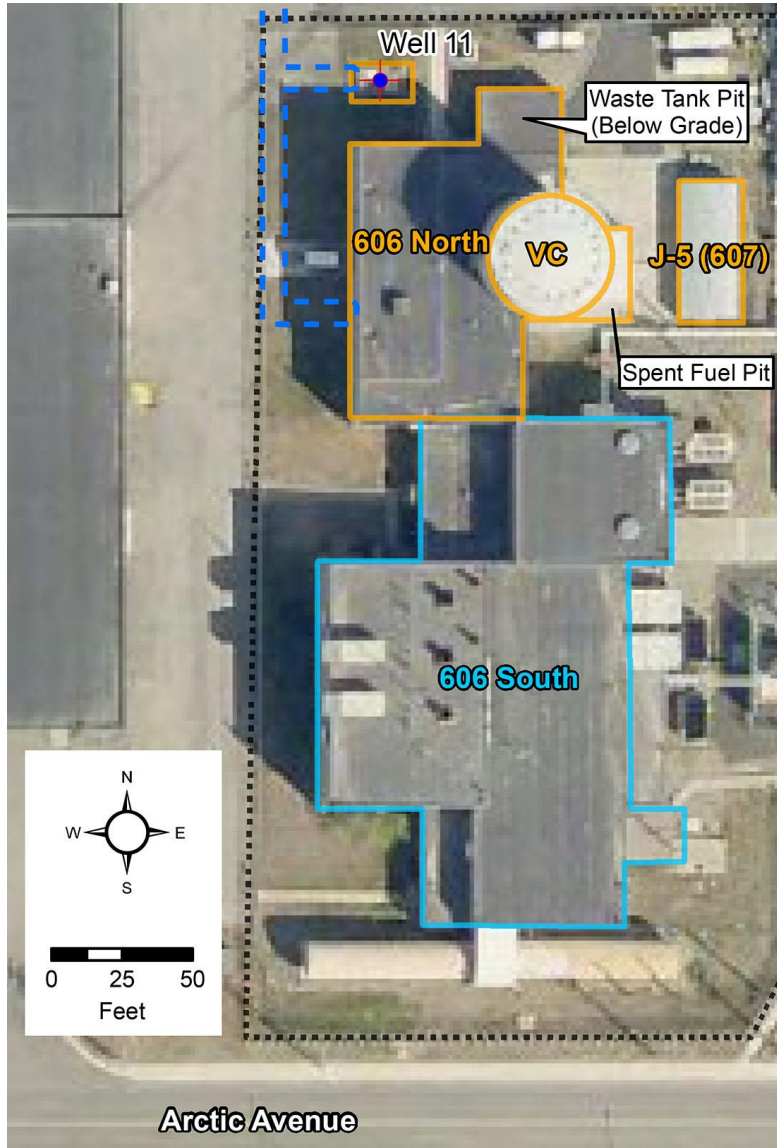


- Buildings 606 North and 606 South contain infrastructure and equipment associated with Fort Greely's conventional utility systems and are owned by Doyon Utilities, LLC.





# AFFECTED AREAS OF SM-1A



## LEGEND

Well

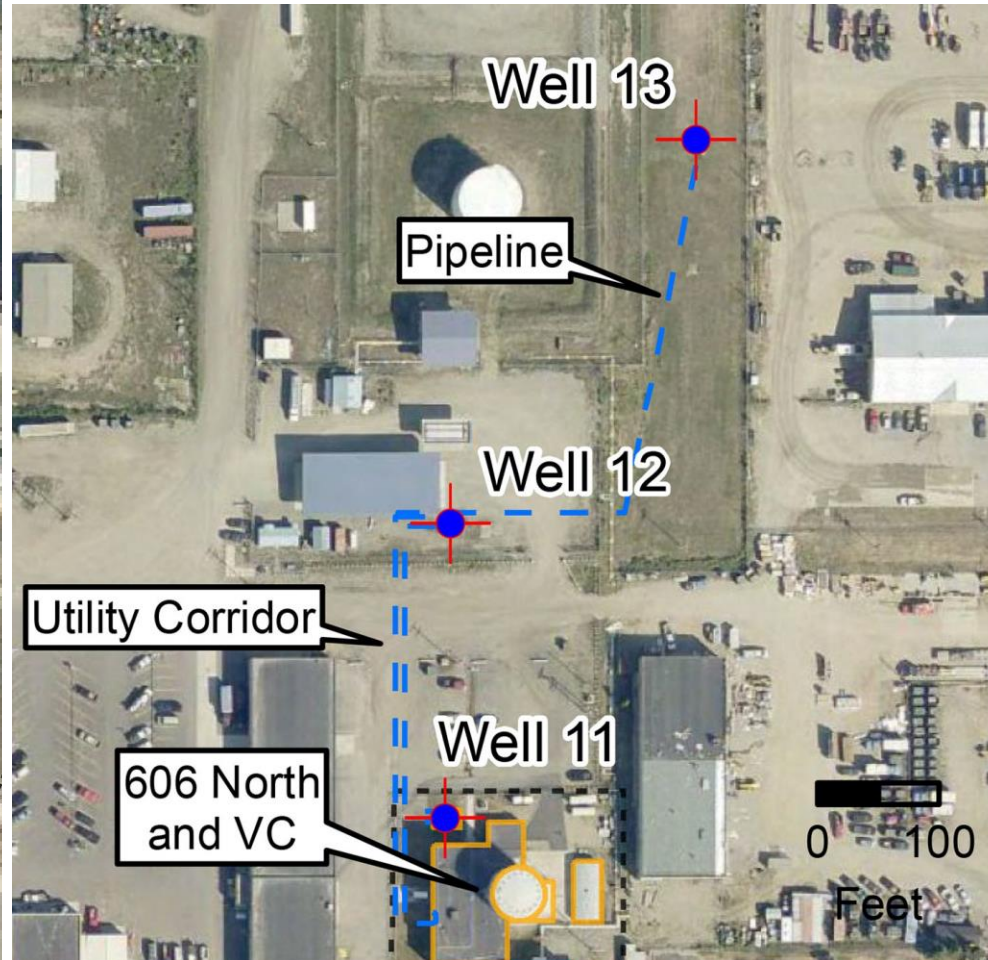
## SM-1A Reactor Facility

606 North

606 South

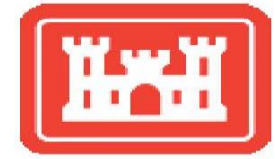
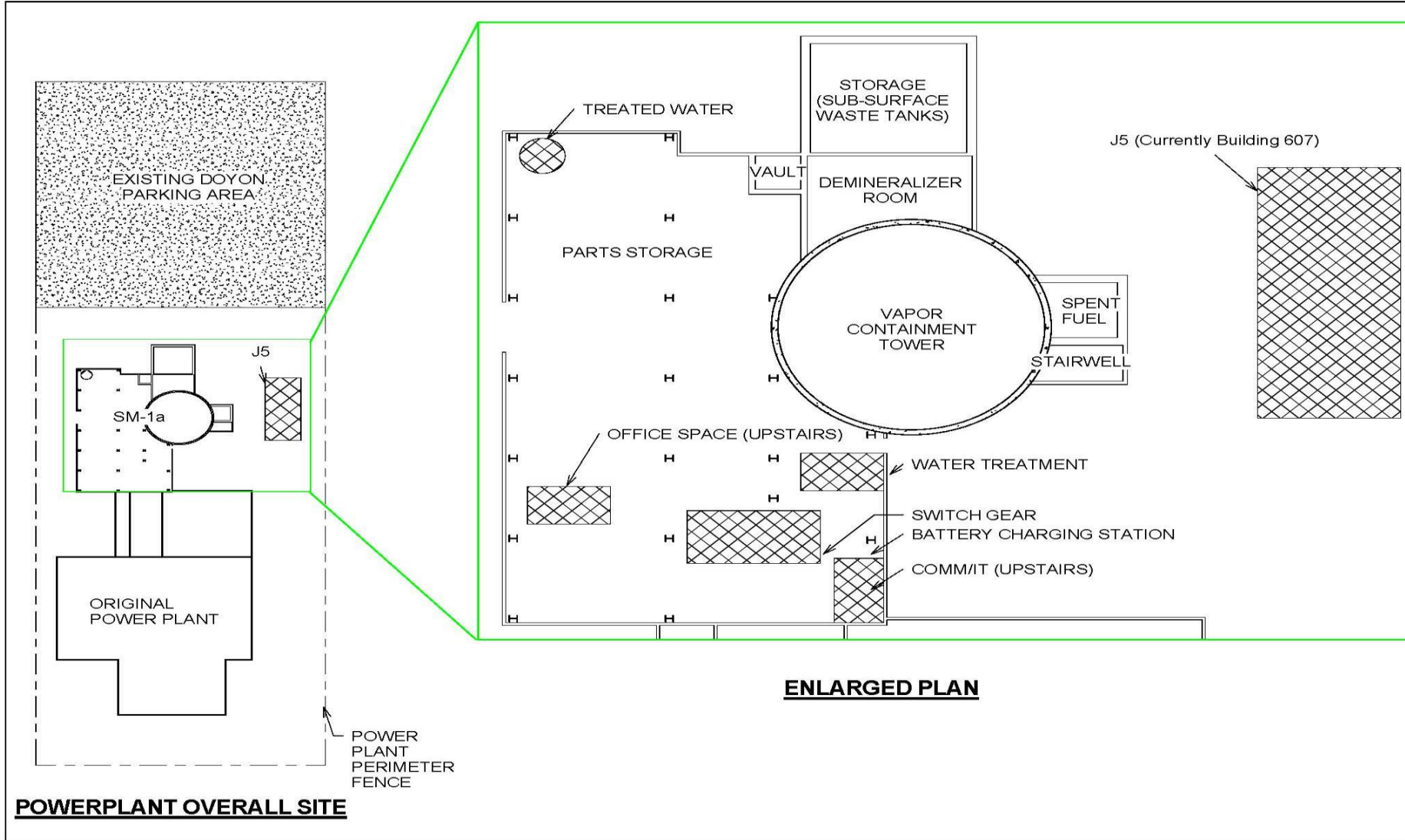
SM-1A Perimeter Fenceline

Underground Utility Infrastructure





# AFFECTED AREAS OF SM-1A



AREAS THAT WILL POTENTIALLY BE AFFECTED MY THE SM-1A FINAL DECOMMISSIONING

PROJECT LOCATION:  
Fort Greely Power Plant,  
Fort Greely, AK

Project Number	2020
Date	16 August 2018
Drawn By	EMA
Checked By	EMA

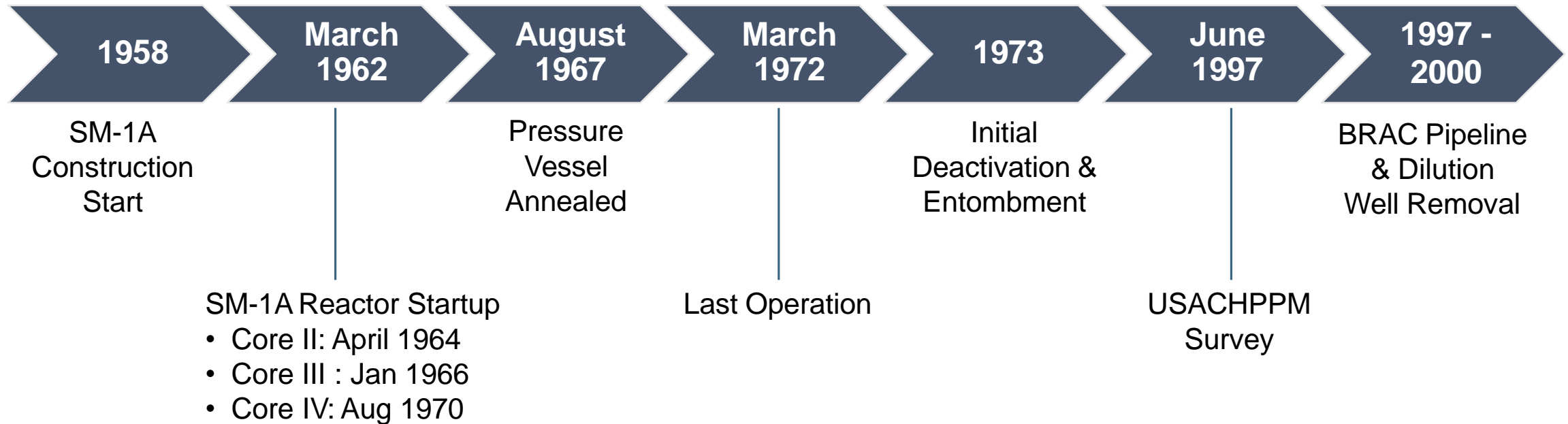
SM-1a SHEET 1

**SITE LAYOUT**

Scale As indicated

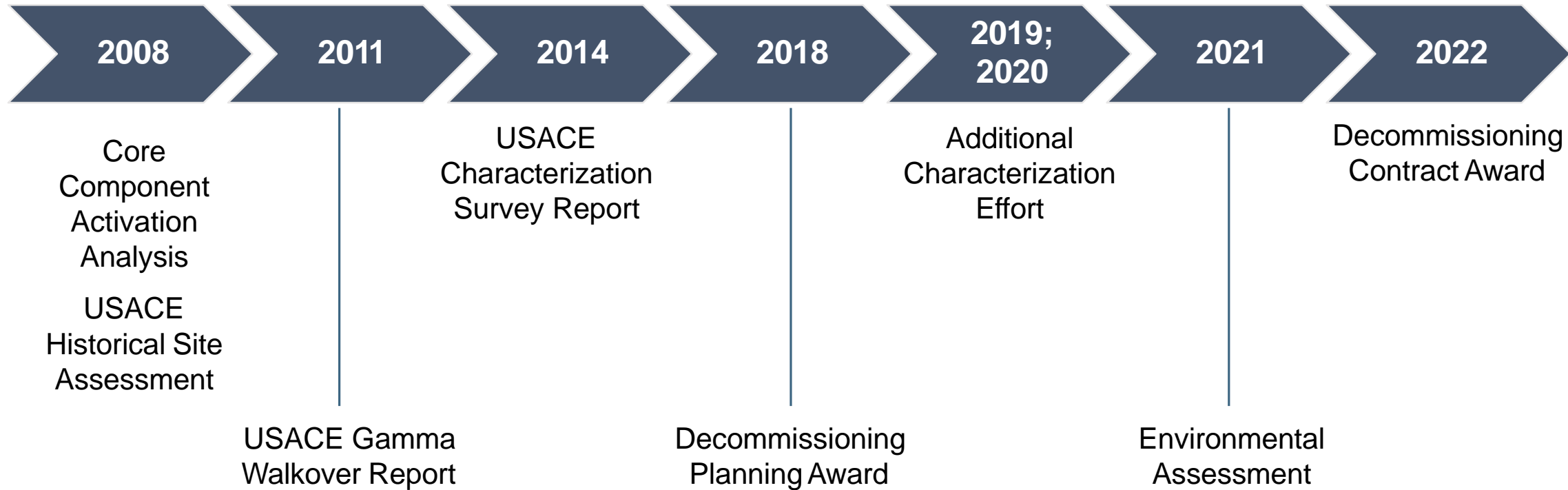


# SM-1A TIMELINE OF ACTIVITIES





# SM-1A TIMELINE OF ACTIVITIES (CONT.)



# DECOMMISSIONING PLANNING





# Deactivated SM-1A Nuclear Reactor Facility Decommissioning and Dismantlement Draft Environmental Assessment

February 2021



UNITED STATES ARMY GARRISON ALASKA FORT GREELY  
DELTA JUNCTION, ALASKA



US Army Corps  
of Engineers®



NEPA



U.S. ARMY



# NATIONAL ENVIRONMENTAL POLICY ACT PROCESS

- The National Environmental Policy Act (NEPA) requires federal agencies to assess the environmental and socioeconomic effects of their proposed actions prior to making decisions.
- NEPA also provides opportunities for the public to learn about and comment on federal proposed actions.
- USACE has prepared an Environmental Assessment (EA) to analyze the potential impacts from the proposed decommissioning (the "Proposed Action").
- The EA is a concise public document that provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS). The EA includes brief discussions of the following:
  - The purpose of and need for the proposal.
  - Alternatives to the proposal (as required under Section 102 [2] [E] of NEPA).
  - The environmental impacts of the proposed action and alternatives.
  - A listing of agencies and persons consulted.





# PROPOSED ACTION

- USACE proposed to:
  - Complete the decommissioning and dismantlement of SM-1A in accordance with the Army Reactor Office (ARO) - approved Decommissioning Plan;
  - Terminate the U.S. Army Nuclear and Countering Weapons of Mass Destruction Agency (USANCA) - issued SM-1A decommissioning permit; and
  - Release the SM-1A site for unrestricted use in accordance with U.S. Nuclear Regulatory Commission (NRC) regulations at 10 code of Federal Regulations (CFR) 20.1402 and adopted by the Army.

The Final Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) found that the Proposed Action would have no significant adverse impacts on the environment.

The documents were finalized and released to the public in June 2021.



# SECTION 106



# SECTION 106 OF THE NHPA CONSULTATION PROCESS

- Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider effects of undertakings on resources listed in or eligible for inclusion in the National Register of Historic Places (NRHP).
- Section 106 provides opportunities for public input on federal actions potentially affecting historic properties.

- USACE is the Lead Federal Agency

- U.S. Army Garrison involvement



- USACE Consulting Parties

- Alaska SHPO / Office of History and Archeology
- Tribal Governments and other interested parties
- Nuke Digest
- Delta Junction City Council



- USACE Consultation

- Defined the Area of Potential Effect (June 2020)
- TPP Involvement
- Cultural Resources Technical Report & Adverse Effect Determination (December 2020)
- Memorandum of Agreement (MOA) (completed June 2021)



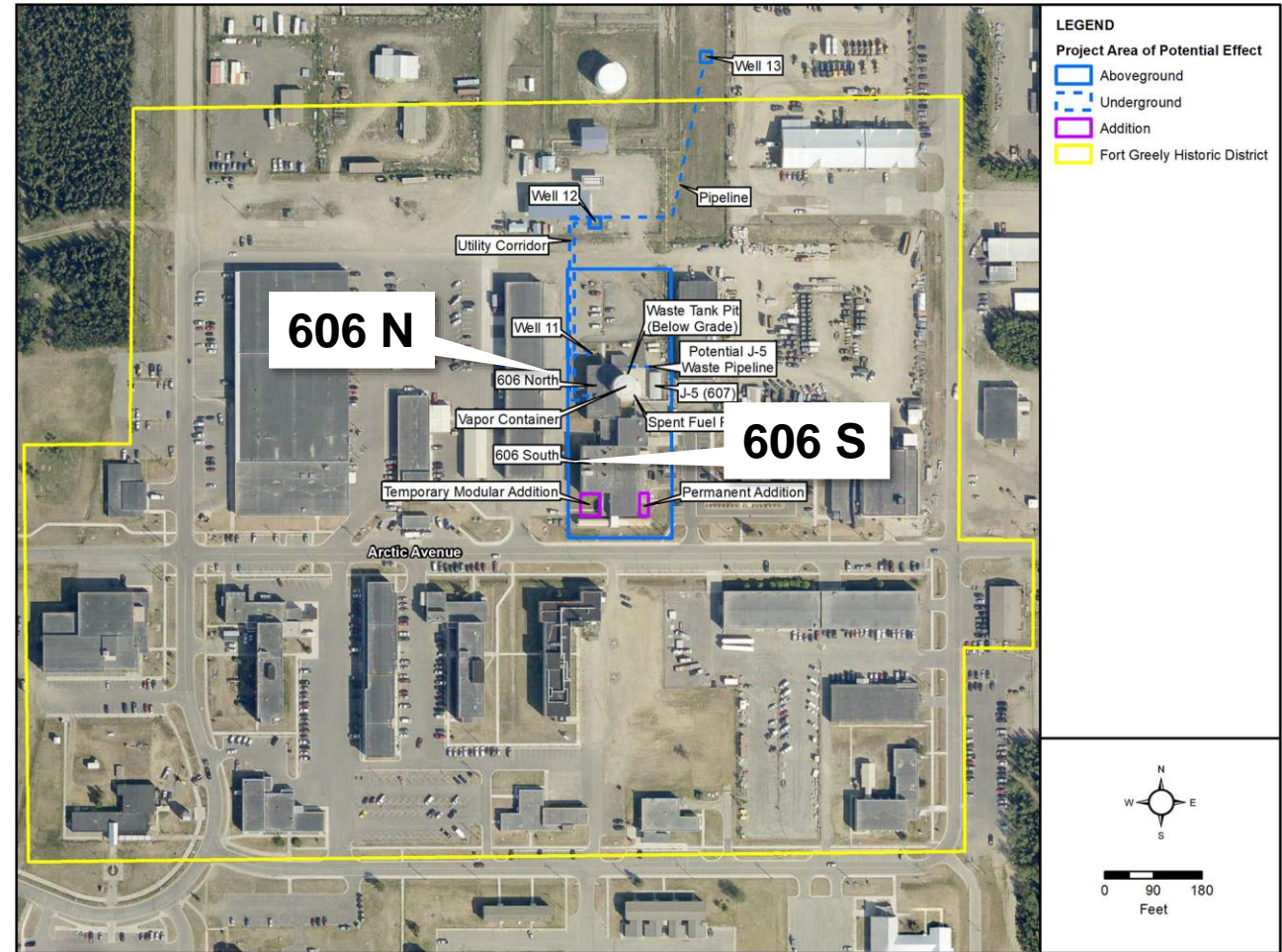


# AREA OF POTENTIAL EFFECT AND HISTORIC PROPERTIES

- SM-1A is individually eligible for listing in the National Register of Historic Places (NRHP).
- SM-1A is a contributing resource in the NRHP-eligible Fort Greely New Post/Cold War Historic District.

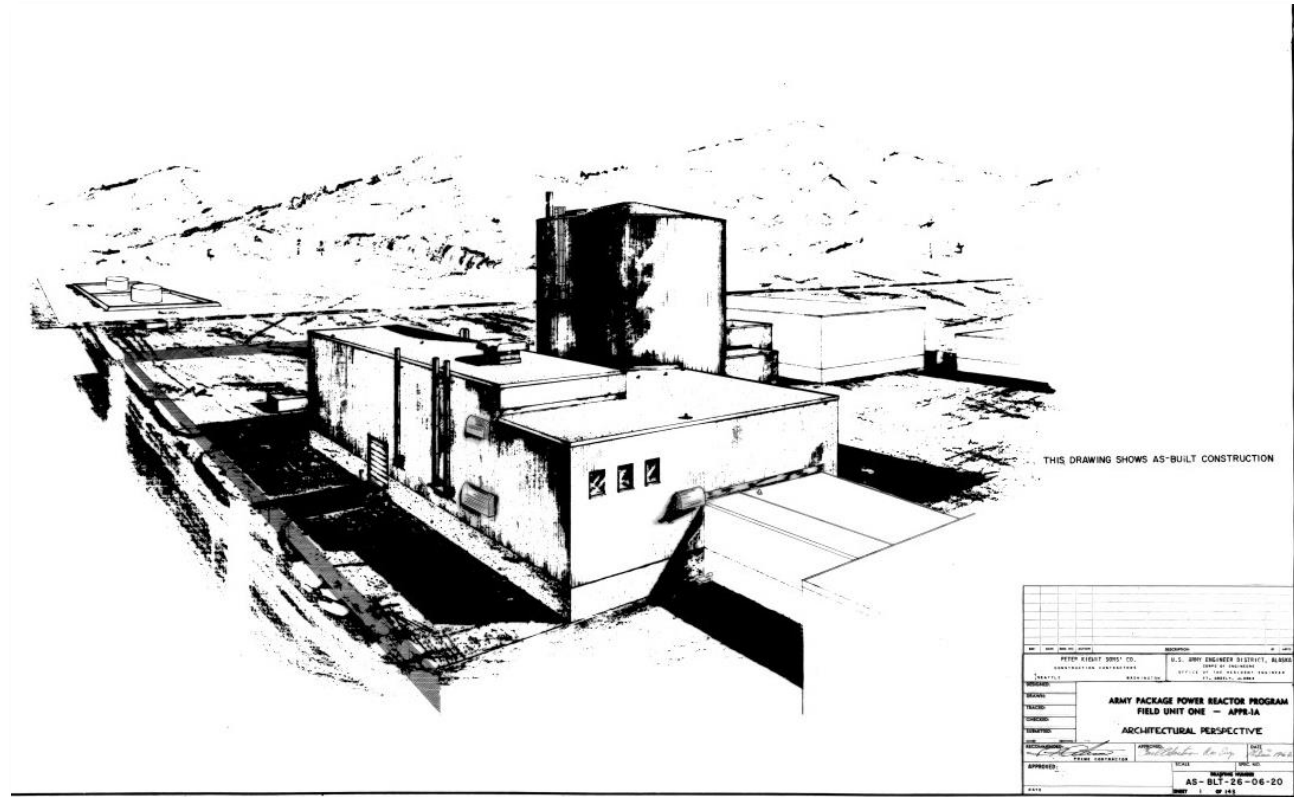
## ADVERSE EFFECTS TO HISTORIC PROPERTIES

- Demolition of SM-1A Reactor Facility
- Demolition of a contributing resource in the Fort Greely New Post/Cold War Historic District



# RESOLUTION OF ADVERSE EFFECTS

- USACE will resolve the Undertaking's adverse effect by executing an MOA with participating consulting parties and adhering to stipulations specified therein.
- Avoidance or minimization is not feasible due to NRC regulations and Army Regulation 50-7, Army Reactor Program.





# DECOMMISSIONING PLAN





# DECOMMISSIONING PLAN – AFFECTED BUILDINGS



# DECOMMISSIONING PLAN

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- Provides overview of the project
- Discusses radiological contamination present at the site
- Documents the release criteria and clean up criteria for the site
- Outlines project management and overall organization
- Provides the framework for the radiation safety and health of the project
- Outlines overarching approach to waste management and disposal
- Documents the release of prior associated buildings – 670 and 675





# UTILITY SEPARATION PROJECT





# RELOCATION OF DOYON UTILITIES

- The USACE team worked with a joint team including IMCOM FGAK and DLA to have Doyon complete the utility separation work under the existing Utilities Privatization contract
- DLA finalized the contract modification to have Doyon implement the utility separation work – issued on 28 Jul 2021
- Doyon began implementation of the project in Aug 2021 and has until April 2023 to complete the utility separation work and relocate to the south end of Bldg. 606 South
- USACE will be providing construction support throughout the utility separation work through USACE staff and the Engineer of Record – APTIM Federal Services



# CONTRACT ACQUISITION



# SM-1A DECOMMISSIONING CONTRACT ACQUISITION APPROACH

- Stand alone, hybrid C contract with Firm Fixed Price, Cost Plus Incentive Fee, and cost reimbursement contract line items. Solicited under full and open competition
- Major Steps:
  - Market Research is complete
  - Acquisition Planning is complete
  - Issue Request for Proposal – mid Feb 2022
  - Evaluate Proposals – Mar 2022 - Apr 2022
  - Discussions/Revaluations – May 2022 – Jun 2022
  - Award Decommissioning Contract – end of Jul 2022
- Requires a DCAA audited cost accounting system and a validated Earned Value Management that is compliant with the guidelines in ANSI/EIA 748 is required
- Work anticipated to take 6 years to implement (FY22-FY28)





# REQUEST FOR PROPOSAL WILL INCLUDE THE FOLLOWING REQUIREMENTS

- Combination of large and small companies with capabilities and expertise in the following key areas:
  - Prior experience working in Alaska; familiarity with Alaska working conditions and regulations
  - Project Management
    - Scheduling
    - Cost Estimating
    - Risk Assessment and Analysis
  - Radiological Expertise
  - Health and Safety Expertise
  - Decommissioning Expertise
  - Demolition Expertise
  - Regulatory Compliance
  - Waste Transportation and Disposal
  - Small Business Participation – goal for the project will be 20% (minimum)



# SM-1A CONTRACT OUTREACH TO DATE

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- Community Updates at the Delta Junction City Hall – annually since 2018
- Presentation at the Alaska Forum for the Environment – Feb 2019
- Industry Day hosted at the Alaska Forum for the Environment – Feb 2019
- Pre-solicitation site visit – August 2019
- Release of historical documents – August 2019
- Sources sought notices for Market Research
  - July 2020
  - Feb 2021
- Monthly Stakeholder updates (email distribution and posted on website)
- Release of historical documents and Decommissioning Planning documents – November 2021
- All presentations and updates are posted on the project website



# SM-1A CONTRACT SITE VISIT (ANTICIPATED)

- A site visit will be hosted at SM-1A at Fort Greely in AK from 02 – 04 March 2022
- Site access requirements are:
  - No more than four (4) attendees per contractor and/or team
  - Attendees must be registered with the Contract Specialist prior to the event
  - USACE will host an afternoon session on 02 March and a morning and afternoon session 03 and 04 March
  - Session size is limited to 16 attendees so the sessions will be filled based on timely responses to the Contract Specialist (first come basis)
  - Attendees will need to identify a 1<sup>st</sup> and 2<sup>nd</sup> option for sessions
  - Due to COVID protocols, base access is as follows:
    - Vaccination proof will be requested; however, the attendee can sign a memo for non-vaccine status and/or if they choose not to disclose their status. This will be done with base security personnel only (no disclosure to USACE is required)
    - Masks must be worn at all times on the base
    - Social distancing will be required
    - All attendees will be escorted by USACE employees
    - If the base changes access requirements, USACE will notify the attendees prior the visit

**Please review the final solicitation for any changes in the above site visit information**





# SM-1A DECOMMISSIONING IMPLEMENTATION ACTIVITIES

- The selected contractor will prepare plans that will support the decommissioning of the SM-1A in accordance with contract PWS and the Decommissioning Permit issued to the USACE;
- Decommission/disposal of materials in accordance with final plans, decommissioning permits, and relevant Federal and State requirements; and
  - Project management (cost controls, scheduling, manpower resourcing, etc.)
  - Prepare work plans, safety and radiological plans, and prepare complex engineering assessments
  - Removal of all reactor components and radiologically contaminated materials
  - Prepare all radiological waste for proper shipment; then transport and dispose of the waste
  - Perform radiological surveys
  - Perform demolition of non-contaminated equipment and building components
  - Excavate contaminated soils
- Final site restoration

**Adherence to NRC and Army, as well as other Federal standards and guidance where relevant and as required by the Army Reactor Office and USACE.**



# ENGAGE AND LEARN MORE

Learn more about the SM-1A Project online at:

<https://www.nab.usace.army.mil/SM-1A/>

Sign up for the SM-1A stakeholder update email list by emailing:

[CENAB-SM1A@usace.army.mil](mailto:CENAB-SM1A@usace.army.mil)

Stay engaged with us online:



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[www.nab.usace.army.mil](http://www.nab.usace.army.mil)



# THANK YOU FOR ATTENDING TODAY'S EVENT

USACE appreciates your input on the SM-1A Deactivated  
Nuclear Power Plant Decommissioning Project.

We look forward to engaging with you in this process.

