# NPS – Bandelier National Monument
# Replace Underground Utilities

## Pre-Bid In-Person Meeting

May 12, 2026

PMIS: 266697

Jacobs Challenging today. Reinventing tomorrow.

# Welcome from the Jacobs and NPS Teams!

# Agenda

- Project Location Overview
- Contract Line Items (CLINs)
- Construction Challenges - Summarized
- Site Walkthrough


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# Project Location Overview

# Where are we?

- Historical cornucopia: 1150 CE – 1550 CE
- Ancestral lands for at least 23 tribal nations
- Rich in archaeological artifacts:
  - Cavates
  - Pottery shards
  - Tools
  - Paleoindian points
  - Burial grounds

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# Why Bandelier?

- Cochiti Pueblo guided Adolf Bandelier to the cliffs in 1880.
- Established as monument in 1916 by Woodrow Wilson
- Civil Conservation Corp (CCC) – constructed infrastructure (1930s)
- Historic Mission 66 Corridor
- NPS starting counting visitors in 1932 with 4,200. Peaked in 1994 with 430,000 visitors with a current steady annual visitation of 200,000 – 250,000.
- Projected to have 18 Million visitors in 100 years.

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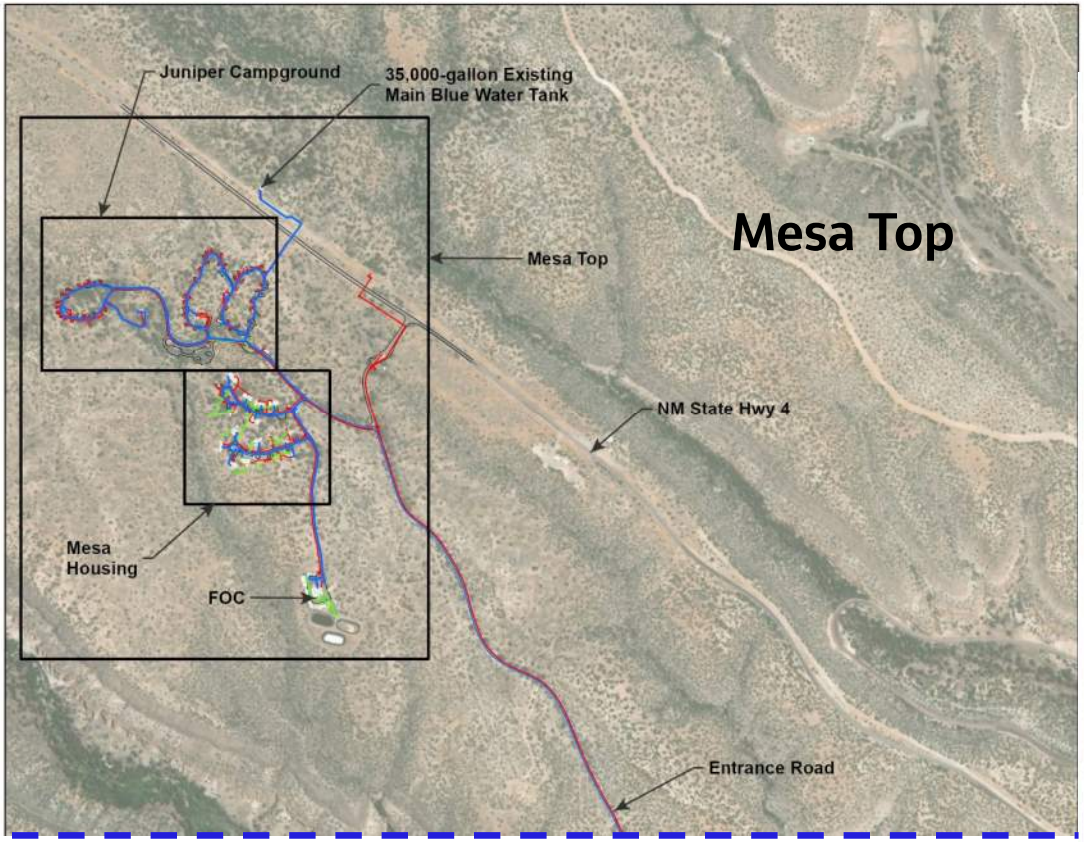
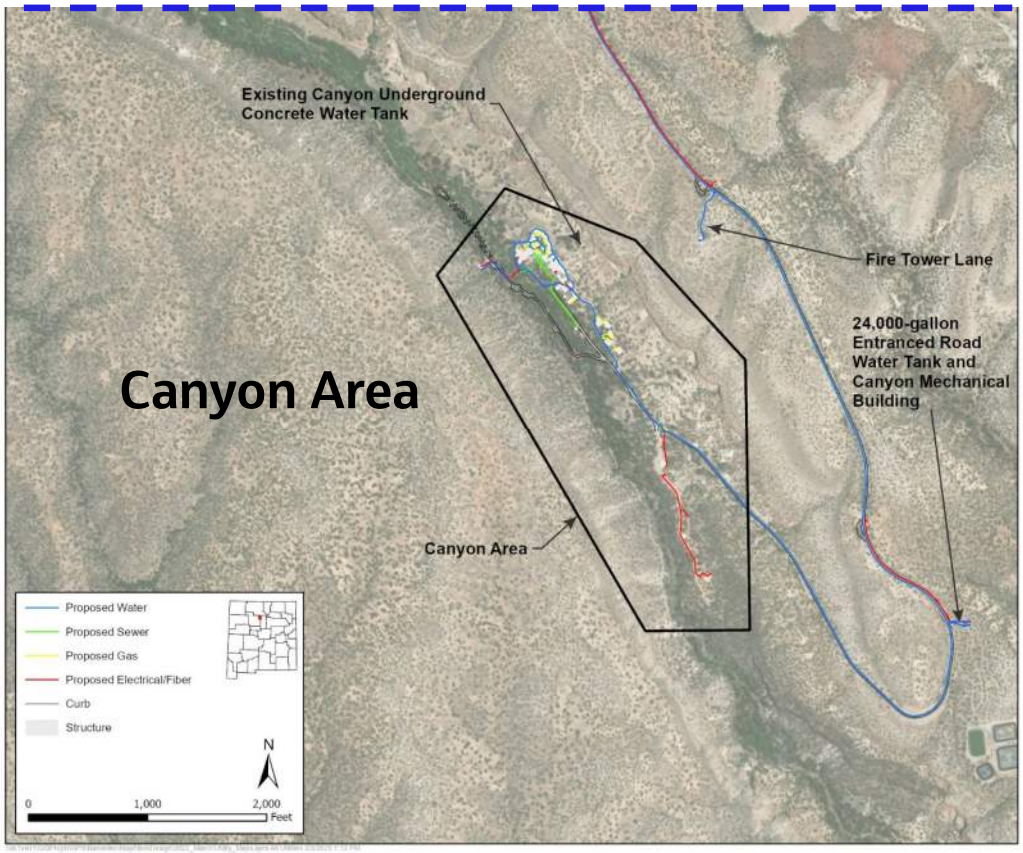
# Location Overview



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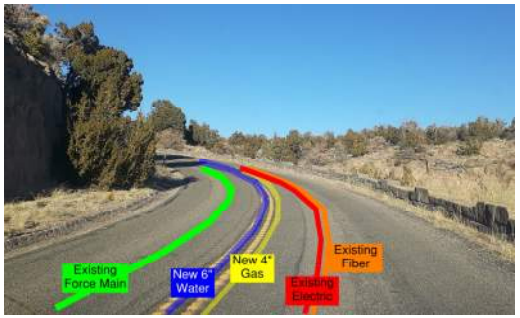
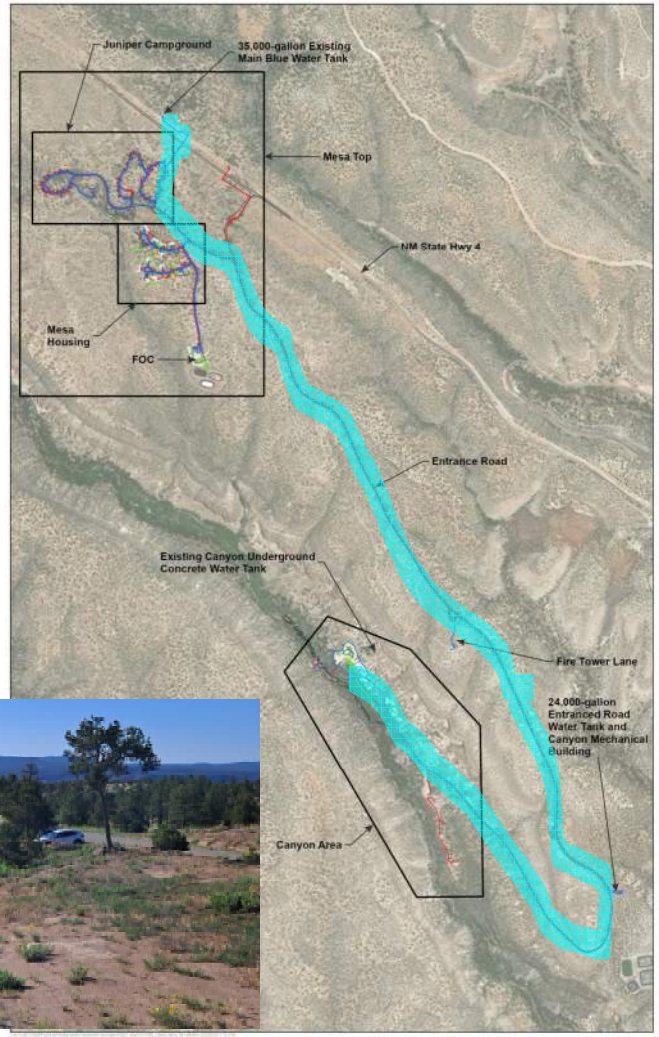
# Contract Line Items (CLINs) (Dwg. 00G003)

# CLIN 0001 - Main Park Water System

- Partial scope:
  - New 10-inch, 8-inch and 6-inch PVC water mains from existing Blue Tank (Mesa Top) through Abert's Squirrel Loop, along Campground Road and Entrance Road, ending in Canyon Area maintenance yard.
  - Replace meters, service lines and fire hydrants
  - New 24,000-gallon cast-in-place concrete water storage tank
  - New prefabricated Canyon Mechanical Building
- Challenges:
  - LANL coordination
  - Public visitors safety on Entrance Road
  - Narrow Entrance Road utility corridor (existing electric/fiber and force main)





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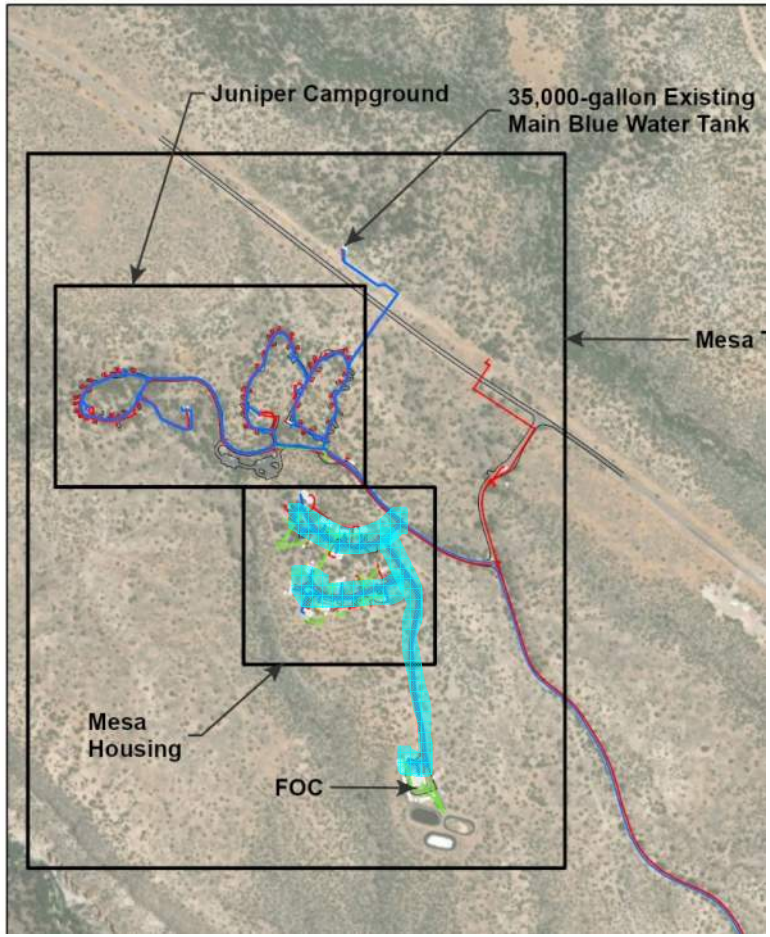
# CLIN 0002 - Mesa Housing and Field Operations Center (FOC) Water Mains and Service Lines

- Partial Scope:
  - New 6-inch PVC water mains from Campground Road to FOC and Mesa Housing (Saltbrush Ct. and Paintbrush Ct.)
  - Replace service lines, water meters and fire hydrants
- Challenges:
  - Residential area



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# CLIN 0003 - Primary Electrical Distribution

- Partial scope:
  - New primary service from LANL to the Mesa Top System.
  - New primary distribution system in the Mesa Top areas: Entrance Station, Juniper Campground, Mesa Top Housing, and FOC.
  - New Fiber-Optic conduits and handholes
- Challenges:
  - Continued LANL coordination for service
  - Los Alamos County maintains voltage system (need to meet County requirements)
  - Built in parallel to prevent massive outages (sequence construction)
  - Long lead items: pad-mount switch gears, pad-mount residential transformers and standby gas-generator

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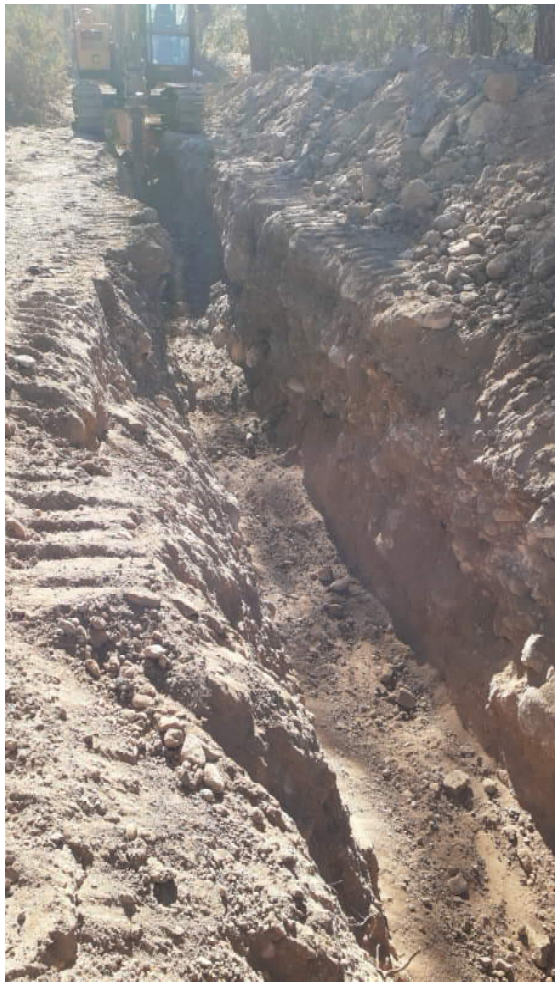
## CLIN 0004 - Cellular Network

- Scope:
  - Remote Monitoring Systems for Main Blue Tank, PRV Vault and Main Lift Station
- Challenges:
  - Ensuring signal within Canyon

## CLIN 0005 - Rock Excavation

- Scope:
  - Rock Excavation (during trenching)
- Challenges:
  - Slows trenching operations
  - May require special equipment

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# CLIN 0006 - Roadway

- Partial scope:
  - Remove, dispose, and replace asphalt pavement on roads and parking to match existing curbs at Entrance Road and Frijoles Canyon Visitor Center area. Protect historic curbs, stone drainage, and retaining walls.
- Challenges:
  - Construction in public Entrance Road and parking areas – visitor safety
  - Projection of historic features

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# CLIN Option A - Primary Electrical Inter-Connection Between Frijoles Canyon and Mesa Top Systems

- Partial scope:
  - Provide new electrical duct banks and access vaults to facilitate future interconnection tie between the Mesa Top and the Frijoles Canyon distribution systems.
  - Install duct banks in the shared utility corridor parallel to the water and gas lines between Campground Road and the Fire Tower Lane.
- Challenges:
  - Construction in shared utility corridor with water and gas

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# CLIN Option B - Frijoles Canyon Water and Natural Gas Main Loop

- Partial scope:
  - Replace all existing 6-inch distribution waterlines, service lines to meters, fire hydrants, and water meters from Canyon Maintenance Yard inter-tie and loop around admin. buildings, casitas, and Visitor Center
  - Replacement of all existing natural gas distribution lines (mains) ~~and service lines~~ for Frijoles Canyon areas (Visitor Center and Buildings).
- Challenges:
  - Construction in shared, narrow utility corridor with electric and communication
  - Existing utilities' location is not exact
  - Historic flagstone walkways
  - Hand dig/small excavating equipment within casita courtyard

Dwg 02C200



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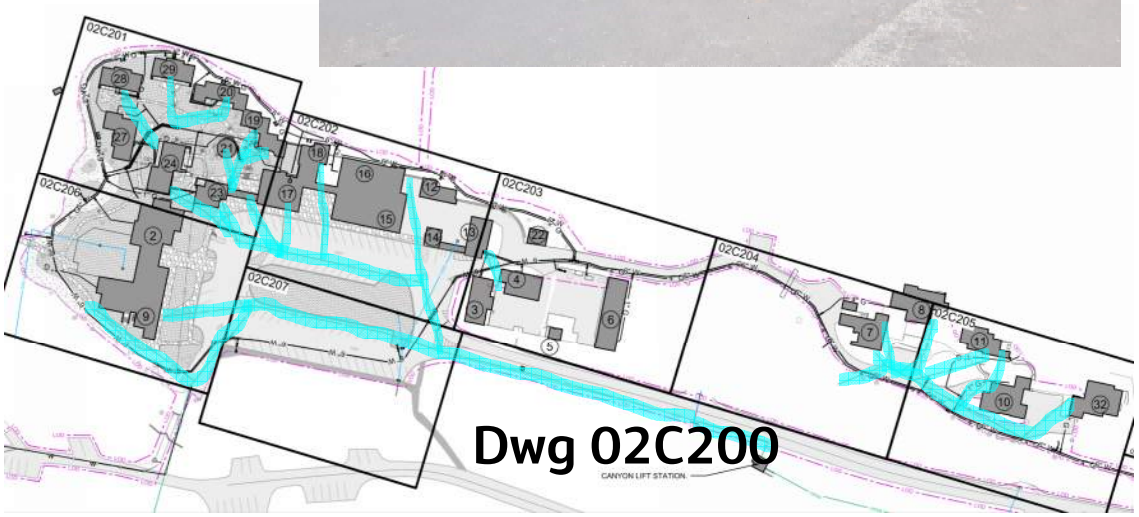
# CLIN Option C - Frijoles Canyon Wastewater System

- Partial scope:
  - Replace vitrified clay sewers and manholes and sagging ductile and PVC pipes (from existing CCTV results) and install new 4-inch through 8-inch C900 PVC pipes.
  - Dispose (only if needed) of DDT contaminated soil
  - Remove and dispose sewer laterals and associated receiving manholes and install new Schedule C900 PVC laterals to cleanout.
- Challenges:
  - Traffic control needed; visitor safety
  - Historic flagstone walkways
  - Hand dig/small excavating equipment within casita courtyard
  - Includes contact with DDT soil – excess soil to be disposed of per Hazardous Waste regulations. Use it as backfill!





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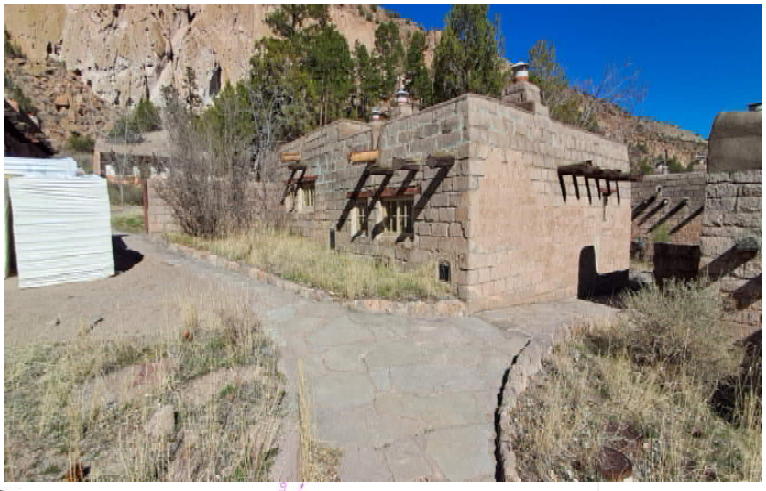
# CLIN Option D - Frijoles Canyon Natural Gas Laterals

- Partial Scope:
  - Replace service lines for each building within the Frijoles Canyon Loop up to the regulator for buildings where the regulator and meter are adjacent to the building.
- Challenges:
  - Construction in shared, narrow utility corridor with electric, communication and water.
  - Hand dig/small excavating equipment within casita courtyard
  - Existing utilities' location is not exact
  - Historic flagstone walkways



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## CLIN Option E - Fiber-Optic Cable from Existing Fiber Handhole Near the Entrance road (Pajarito) Microwave Tower to FOC and Entrance Station

- Scope:
  - Provide 12-strand fiber-optic cables from Frijoles Canyon IT room in Building #15 to FOC, and from FOC to Entrance Station. Existing duct bank conduits and innerduct will be utilized from the Canyon IT room to an existing communications handhole near Fire Tower Lane. New underground dedicated fiber-optic duct bank conduits from the existing handhole to the FOC and Entrance Station are included under CLINs 0003 and Option A.
- Challenges:
  - None expected

## CLIN Option F - Frijoles Canyon Visitor Center Fiber Pathway

- Scope:
  - Provide underground conduit pathway between the Building 15 IT room and the Visitor Center Server Room.
  - Provide building penetrations for new conduits.
- Challenges:
  - None expected


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# CLIN Option G – Demolition of Utility Features

- Scope:
  - After new utility systems are active and functional, remove above ground features and underground valves of abandoned utility systems under CLINs 0001 to Option D.
- Challenges:
  - None expected

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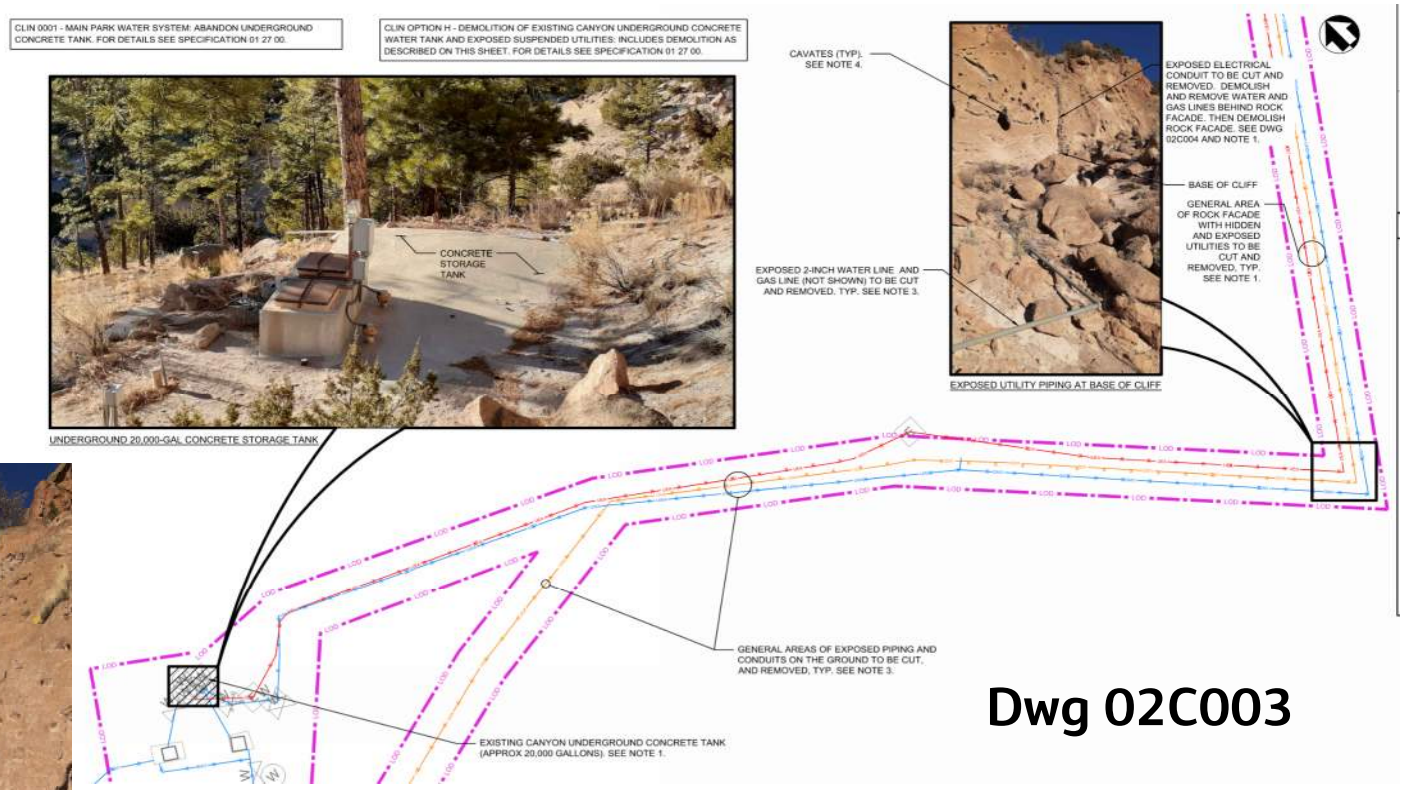
# CLIN Option H – Demolition of Existing Canyon Underground Concrete Water Tank and Exposed Suspended Utilities

- Challenges:
  - Foot traffic only
  - Removal of water and gas pipes and rock façade on cliff
  - Vault to be demolished in place and filled with native, local material
  - Exposed equipment and pipe to be manually removed and disposed



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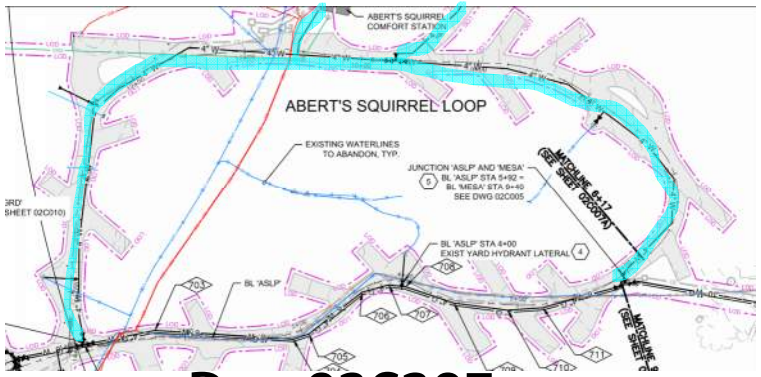
# CLIN Option I – Juniper Campground Water Mains and Service Lines

- Partial Scope:
  - Install new 4-inch PVC water lines in the three Juniper Campground loops (Abert's Squirrel, Black Bear, and Coyote) and install HDPE water service lines to the comfort stations, and existing and new Camp Host sites.
  - Remove and replace existing fire and yard hydrants.
  - Remove above ground features and underground valves of abandoned utility systems. Asphalt pavement patching of paved roadways and parking areas impacted.

- Challenges:
  - Sequencing construction within campground loops (only one loop closure at a time)
  - Visitor safety

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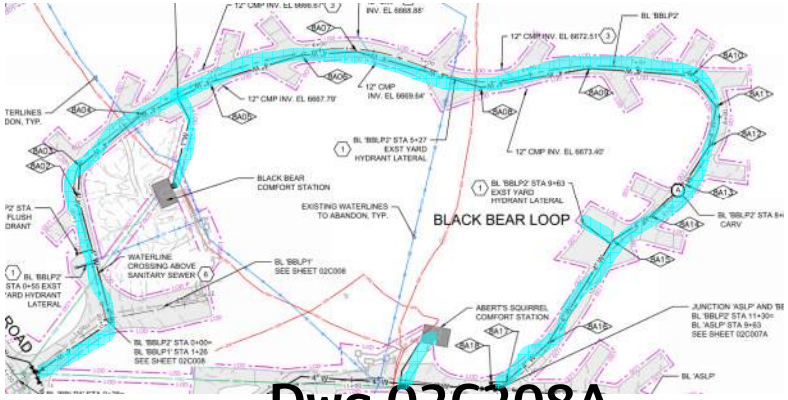


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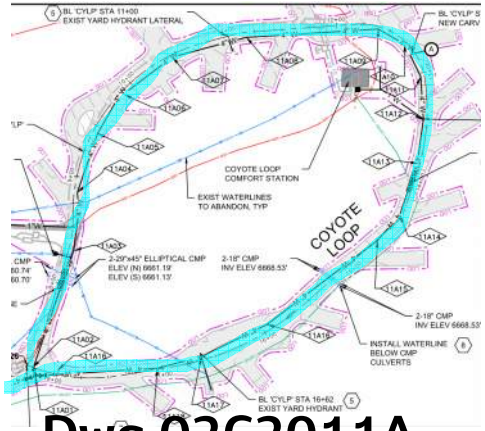


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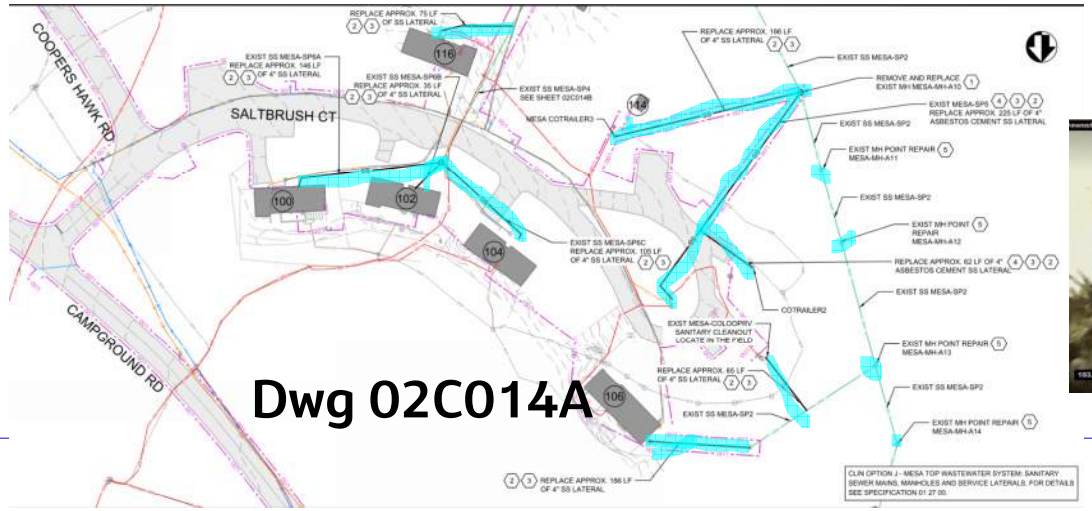
# CLIN Option J – Mesa Top Wastewater System

- Partial Scope:
  - Mesa Housing and FOC:
    - Replace vitrified clay sewers and manholes and sagging ductile and PVC pipes (from existing CCTV results) and install new 4-inch through 8-inch C900 PVC pipes.
    - Open cut and replace asbestos cement pipes and install new 4-inch to 8-inch Schedule C900 PVC pipes.
    - Remove and replace sewer laterals and associated receiving manholes.
    - Pulverize pavement in place and provide full depth asphalt pavement reclamation.
  - Juniper Campground:
    - Remove and replace identified sewer laterals. Remove and replace identified sewer manholes.
    - Point repairs on segments of sewer pipes identified by CCTV.
- Challenges:
  - Residential area safety
  - Public visitor (campers) safety



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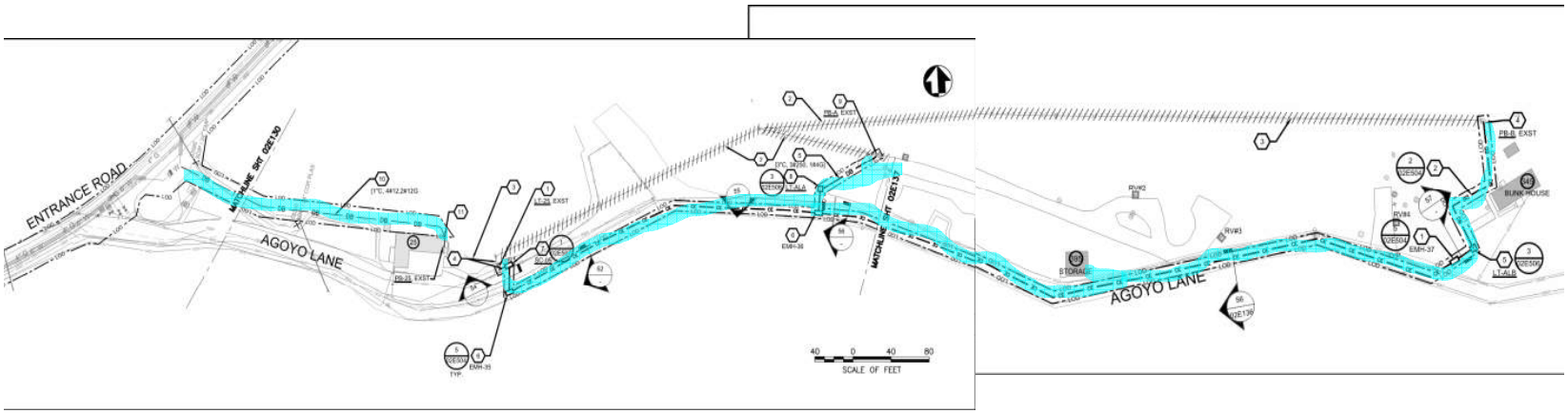
# CLIN Option K – Agoyo Lane Electrical System

- Partial Scope:
  - Provide new single-phase buried electrical duct banks. Intercept the single-phase circuit near Building 25 transformer and extend to new sectionalizing cabinet. Provide single-phase primary circuit for Agoyo Lane.
  - Provide a new transformer near the existing storage building and refeed secondary service to existing pole-mounted panelboard near RV Site #1.
  - Provide new transformer near the existing Bunkhouse and refeed secondary service to the existing pole-mounted panelboard near the Bunkhouse.
  - Demolish and dispose of the existing electrical equipment and wood poles.
  - Asphalt pavement patching of areas impacted by this Option.
- Challenges:
  - None expected





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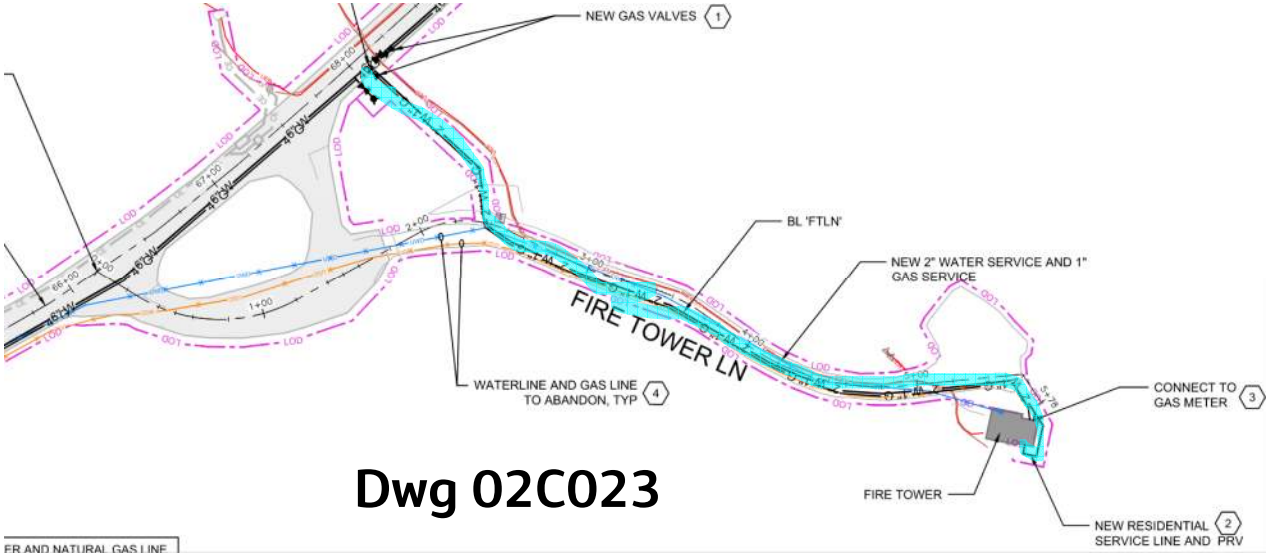
# CLIN Option L – Fire Tower Lane Water and Natural Gas Line Replacement

- Partial Scope:
  - Install new 2-inch HDPE water service and 1-inch gas lateral from Entrance Road along Fire Tower Lane to the Fire Tower building.
  - Asphalt pavement patching areas impacted by this Option
- Challenges:
  - None expected




**Dwg 02C023**

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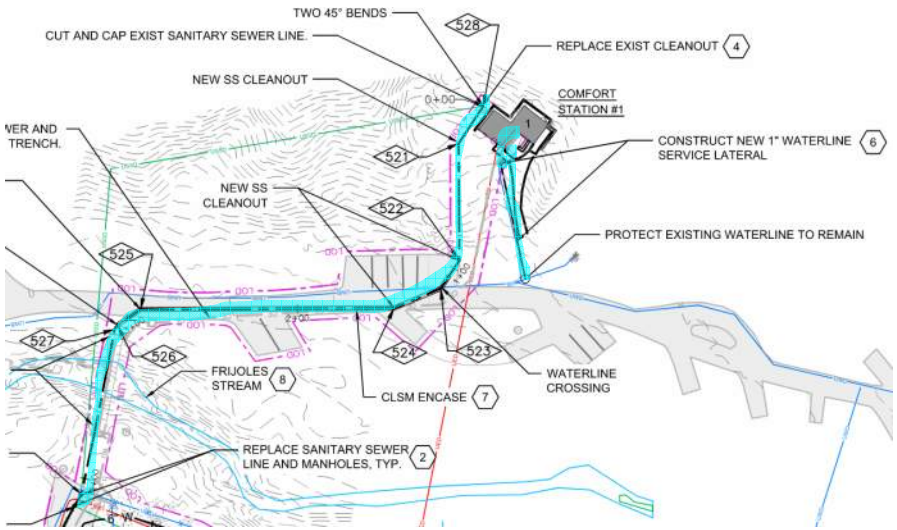
# CLIN Option M – Cottonwood Comfort Station (Building #1) Utility Connections

- Partial Scope:
  - Install new 4-inch Schedule C900 PVC sewer lateral from the comfort station to the manhole at the Canyon Visitor Center, electric to reactivate existing Building 1 Comfort Station. Install utilities under the pedestrian bridge across the Frijoles Creek.
  - Install new NEMA 4X enclosed control panel, 208V, single-phase.
  - Provide a new secondary electrical feed from the Visitor Center to serve the comfort station.
  - Asphalt pavement patching of areas impacted.
- Challenges:
  - Visitor Safety



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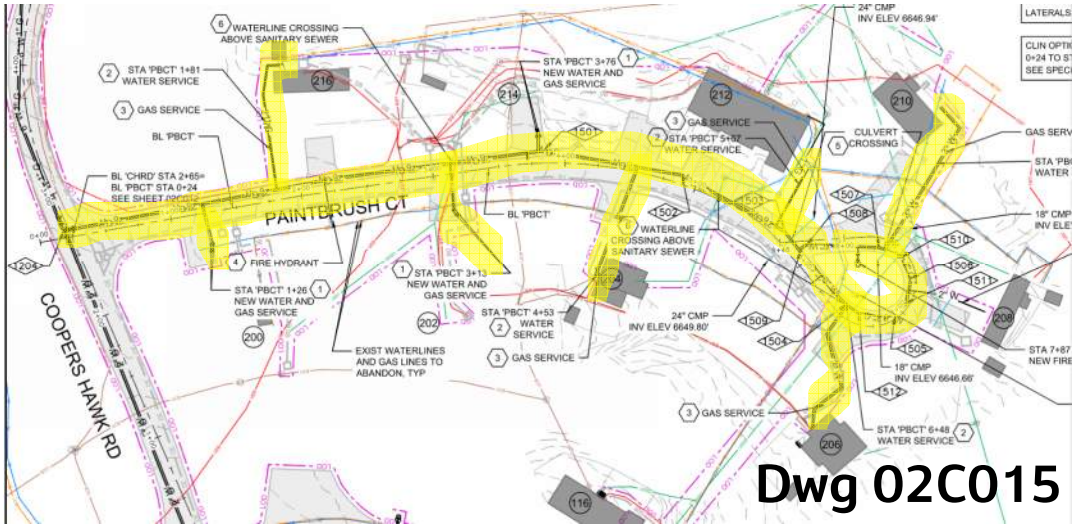
# CLIN Option N – Natural Gas System

- Partial Scope:
  - Replacement of all existing natural gas distribution lines and service lines for Mesa Top (Mesa housing and FOC) and Frijoles Canyon areas (Stone House Road).
- Challenges
  - Construction around residential area
  - Construct parallel with new 6" waterline
  - Minimize utility outage



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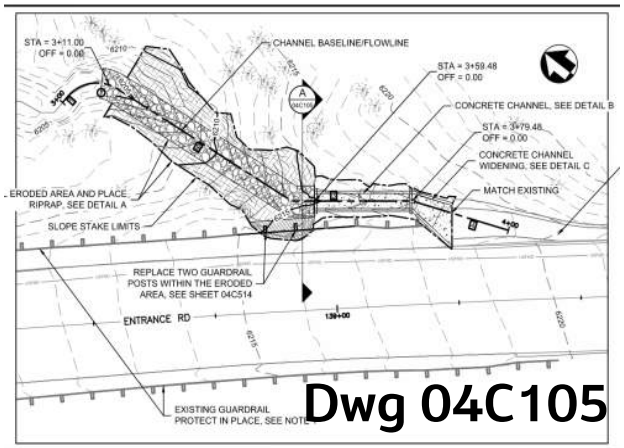
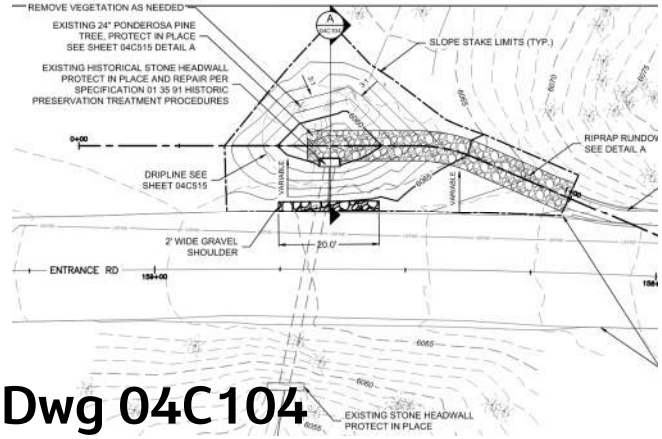
# CLIN Option O – Culvert and Erosion Repairs

- Partial Scope:
  - Grading, culvert repair, riprap installation, etc.
- Challenges
  - Deeply eroded arroyo
  - Protect large tree in-place
  - Construction adjacent to public Entrance Road





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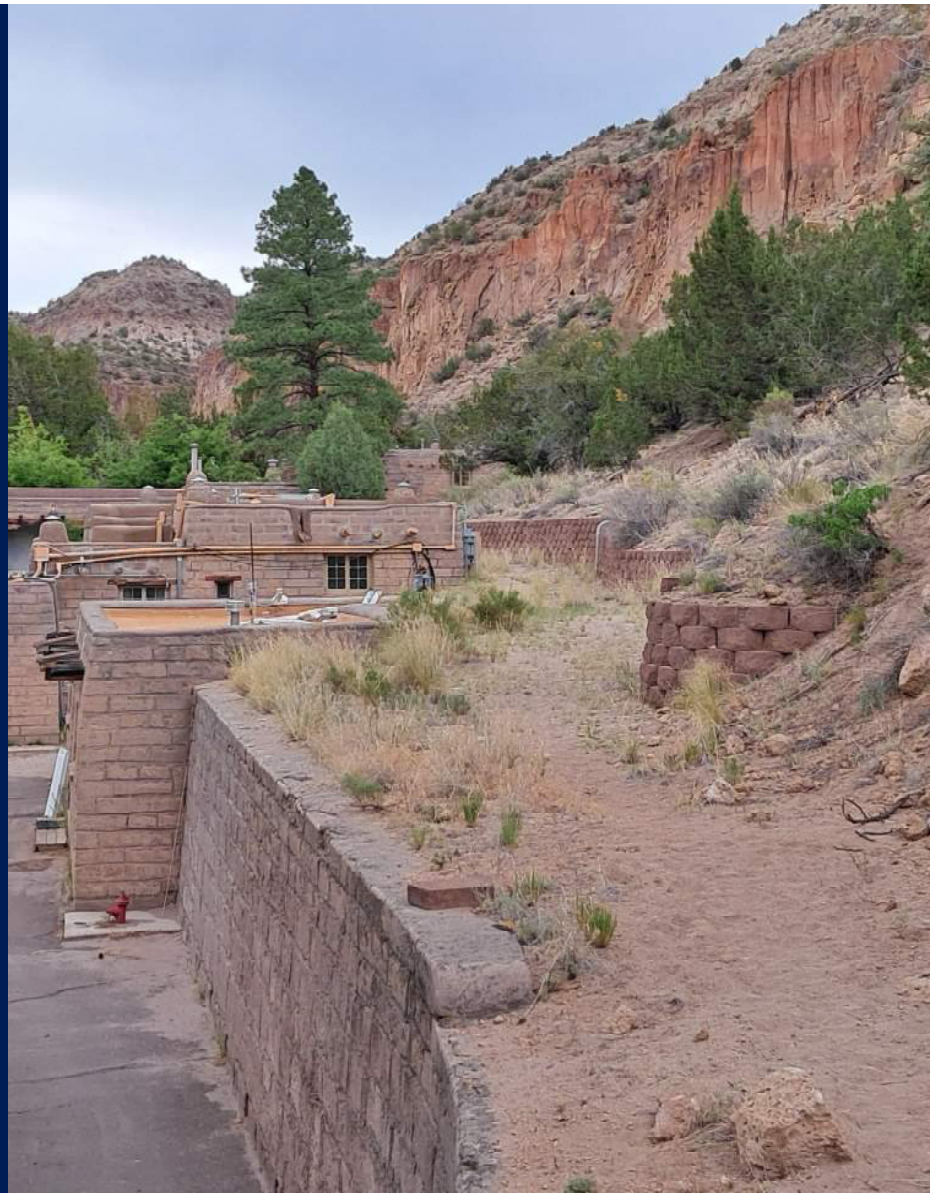
# Construction Challenges - Summarized



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## Construction Challenges - Summarized

- Sequencing of utility outages
- Public visitors (safety and curiosity)
- Utility provider coordination (electric, gas and water) – Los Alamos County and LANL
- Some existing/proposed utility corridor are narrow and utility-dense
- Location of existing utilities is medium accuracy
- Archaeological/historical preservation
- Potential work stoppage if artifact is discovered
- Others…

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# Site Walkthrough