

## New Mexico Gas Company Floodplain Assessment

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**Los Alamos Mainline Make Piggable Pipeline Project at Los Alamos National Laboratory**

July 16, 2026

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## List of Abbreviations

| Abbreviation | Term/Phrase/Name                         |
|--------------|------------------------------------------|
| AOC          | Area of Concern                          |
| BMP          | Best Management Practice                 |
| CFR          | Code of Federal Regulations              |
| DOE          | U.S. Department of Energy                |
| EISA         | Energy Independence and Security Act     |
| EPA          | U.S. Environmental Protection Agency     |
| EO           | Executive Order                          |
| FEMA         | Federal Emergency Management Agency      |
| ILI          | In Line Inspection                       |
| LANL         | Los Alamos National Laboratory           |
| MBTA         | Migratory Bird Treaty Act                |
| ML           | Main Line                                |
| NM           | New Mexico                               |
| NMGC         | New Mexico Gas Company                   |
| NNSA         | National Nuclear Security Administration |
| PAR          | Project and Activity Review              |
| ROW          | Right of Way                             |
| TUAs         | Temporary Use Areas                      |

## Introduction

This floodplain assessment has been prepared to evaluate maintenance activities at eight locations within and adjacent to approximately 3.25 miles of an existing New Mexico Gas Company (NMGC) easement for the Los Alamos 12-inch Main Line (Los Alamos ML) natural gas pipeline in Santa Fe and Los Alamos counties. The approximately 30-mile-long Los Alamos ML pipeline runs across county, Department of Energy (DOE), tribal, and U.S. Forest Service-managed and private land. For this project, NMGC will perform maintenance activities within the existing DOE easement in Los Alamos Canyon (Figures 1 and 1a). However, temporary-use areas (TUAs) and a new right-of-way (ROW) will be required at one of the eight proposed locations. The project sites are located along and south of New Mexico Highway 502 (NM 502) and occur across county, DOE, and private lands. Two project locations (Sites #1 and #2) are situated within Federal Emergency Management Agency (FEMA) delineated 100-year floodplains and one project location (Site #4) is located adjacent to a floodplain identified by DOE.

The following project locations and associated activities will occur within floodplain areas:

- NM 502 Pipe Replacement: Replacement of an existing 8-inch pipeline with a 12-inch pipeline to accommodate inline inspection (ILI) tools.
- White Rock Take-Off, Valve Setting No. 5 & Border Station: Replacement of existing non-piggable above-ground fittings and valve with piggable above-ground fittings and valve. The site will also be upgraded to include remote operation capabilities in accordance with PHMSA Mega Rule guidance.

These activities will require localized excavation to remove and install new pipe segments where the pipeline is currently buried. Work will occur within the existing NMGC 50-foot ROW and additional ROW and TUAs.

This floodplain assessment was prepared in accordance with 10 Code of Federal Regulations (CFR) Part 1022 Compliance with Floodplain and Wetland Environmental Review Requirements (10 CFR Part 1022), which was promulgated to implement DOE requirements under Executive Order 11988, Floodplain Management (EO 1977). A floodplain is defined in 10 CFR Part 1022 as “the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands,” and a base floodplain as the “the 100-year floodplain, that is, a floodplain with a 1.0 percent chance of flooding in any given year (CFR 2003)”. This floodplain assessment evaluates potential impacts to floodplain values and functions from implementation of the proposed actions by NMGC, identifies alternatives to the Proposed Action, and allows for meaningful public comment.

DOE/National Nuclear Security Administration (NNSA) has published this Floodplain Assessment for a 15-day public review and comment period. Please provide comments on this Floodplain Assessment to Karen Armijo:

Email: [Karen.Armijo@nnsa.doe.gov](mailto:Karen.Armijo@nnsa.doe.gov)

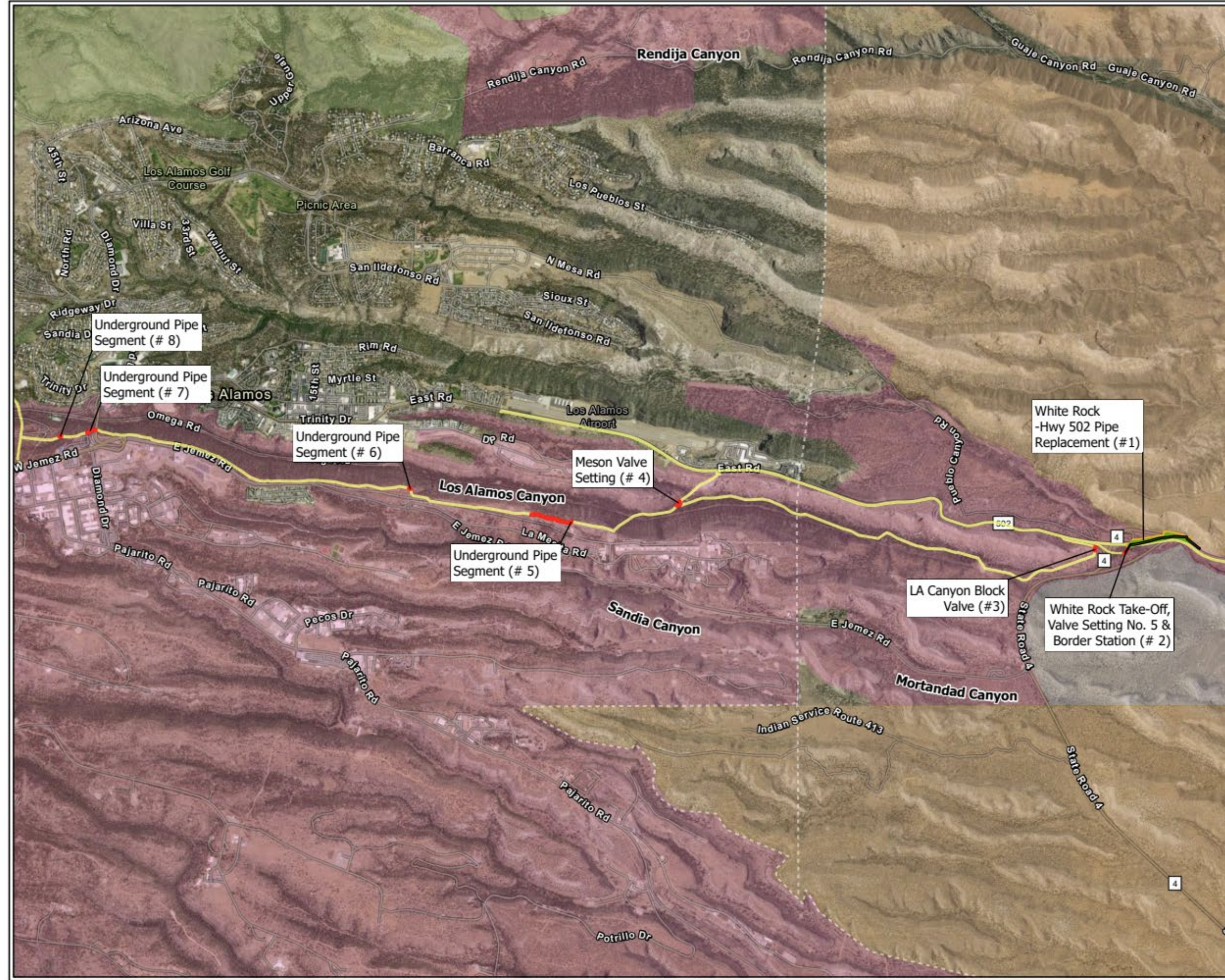
Mail: U.S. Department of Energy  
Los Alamos Field Office  
Attn: Karen Armijo

3747 West Jemez Road  
Los Alamos, NM 87544

After the close of the public comment period and prior to issuing a floodplain statement of findings, DOE/NNSA will reevaluate the practicability of alternatives to the proposed floodplain action, mitigating measures, and take into account all substantive comments received during the public comment period. DOE/NNSA will endeavor to allow 15 days of public review prior to implementation of the proposed action.

**Figure 1**  
**Los Alamos Piggable**  
**Flood Zone Hazard**  
**Overview**

New Mexico Gas Company  
 Totavi to Los Alamos West  
 Make Piggable Pipeline Project  
 Los Alamos, NM

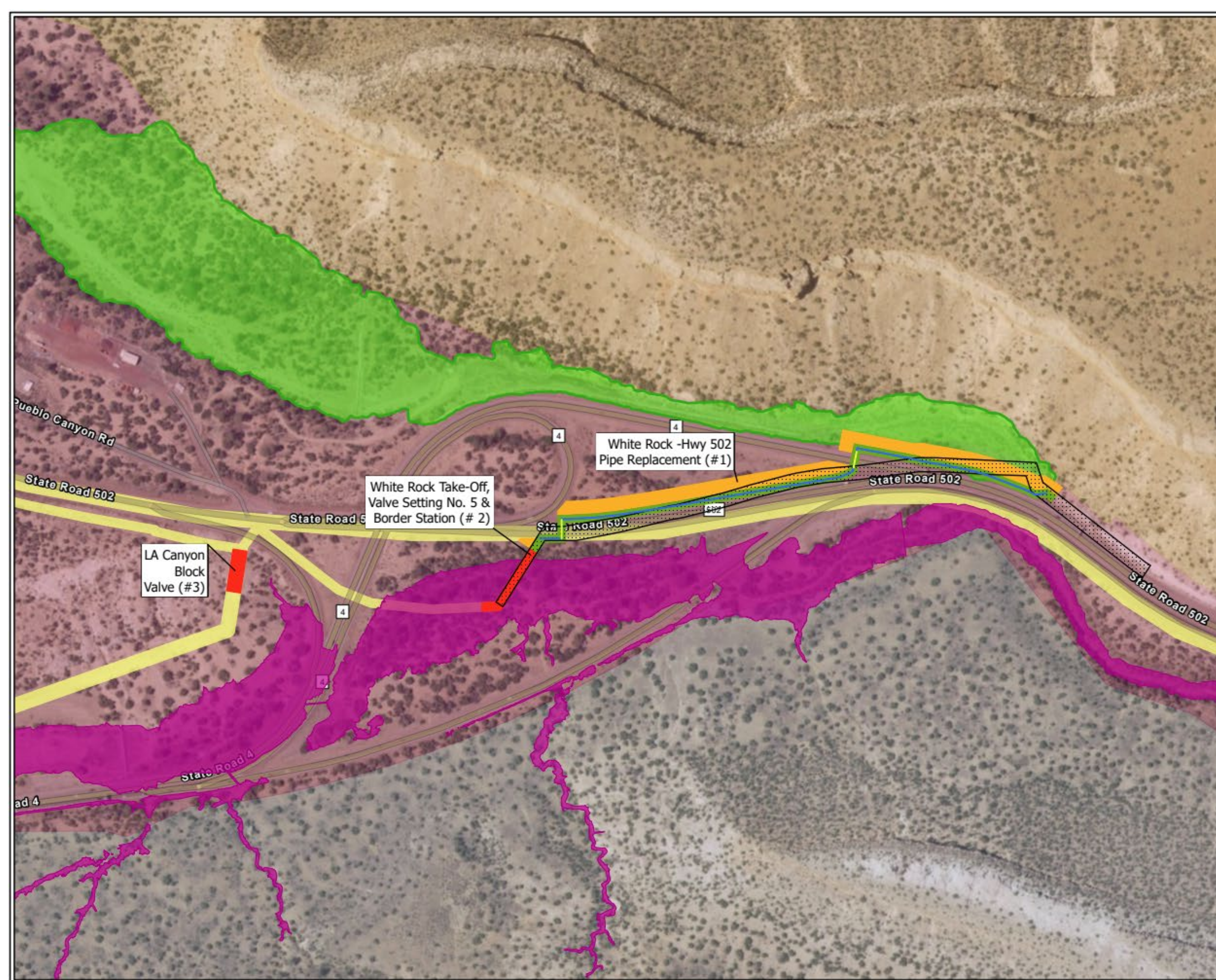


- Legend**
- Work Area
  - Existing Easement
  - Proposed Easement
  - Temporary Workspace
  - Existing New Mexico Gas Right-of-Way
- Surface Ownership**
- Department of Energy
  - Forest Service
  - National Park Service
  - Private
  - Tribal

Scale: 1:35,000  
 Date: 3/24/2026  
 Data Sources: Burns & McDonnell,  
 New Mexico Gas Co.



**Figure 1a**  
**Los Alamos Piggable**  
**Flood Zone Hazard**  
 New Mexico Gas Company  
 Totavi to Los Alamos West  
 Make Piggable Pipeline Project  
 Los Alamos, NM



**Legend**

- Proposed Bore
- Proposed Centerline
- Proposed Easement
- Work Area
- Temporary Workspace
- Existing Easement
- Existing New Mexico Gas Right-of-Way
- Pueblo Canyon Floodplain
- Los Alamos Canyon Floodplain
- Surface Ownership
  - Department of Energy
  - National Park Service
  - Tribal

Scale: 1:4,000  
 Date: 6/12/2026  
 Data Sources: Burns & McDonnell,  
 New Mexico Gas Co.



0 500 Feet



## Background

NMGC is the primary natural gas utility provider to the residents and businesses of New Mexico and is the operator of the Los Alamos ML that runs between Agua Fria and Los Alamos. To comply with federal codes and maintain a safe and reliable system, NMGC needs to modify five existing sites and replace pipe segments at an additional three sites to enable ILI tools to assess the integrity of the pipeline along this section.

The project work areas are located along NM 502, East Jemez Road (NM 501), and within areas adjacent to Los Alamos National Laboratory (LANL). The approximately 3.25 miles of pipeline within the project area begins along NM 502 near the interchange with NM 4 (about mile post 6.5) on DOE-managed lands. The line crosses to the south side of NM 502, then follows Omega Road through Los Alamos Canyon, north of NM 501. The line continues westward, crossing Diamond Drive, north of NM 502, to a location east of the Los Alamos Tech Take-off 2. Work will occur at eight locations along the pipeline:

- NM 502 Pipe Replacement (Site #1)
- White Rock Take-Off, Valve Setting No. 5 & Border Station (Site #2)
- LA Canyon Block Valve (Site #3); No floodplains onsite
- Meson Valve Setting (Site #4); No floodplains onsite
- Underground Pipe Segment (Site #5); No floodplains onsite
- Underground Pipe Segment (Site #6); No floodplains onsite
- Underground Pipe Segment (Site #7); No floodplains onsite
- Underground Pipe Segment (Site #8); No floodplains onsite

Sites 3-8 are not situated within a floodplain and will not require work that would impact floodplains, wetlands, or streams. No further evaluation will be required in this Floodplain Assessment.

The following four photographs (Photographs 1-4) show the floodplains through which the project would pass at Sites #1 and #2.



PHOTOGRAPH 1. NM 502 #1 looking Northeast



PHOTOGRAPH 2. NM 502 #1 looking Northwest



PHOTOGRAPH 3. White Rock Site #2 looking Northeast



PHOTOGRAPH 4. White Rock Site #2 looking Southwest

## Project Description

Eight sites have been identified for maintenance activities along the existing pipeline. Activities at these sites include replacing 8-inch pipe with 12-inch pipe at NM 502/White Rock Station location (Sites #1 and #2), replacing or installing valves, replacing small sections of pipeline, including bends and underground pipe segments, and modifying two locations to allow for the use of ILI tools to ensure the pipeline's operational fitness.

At four locations (Sites #5, #6, #7, and #8) between the Meson Valve Setting (Site #4) and north of the Los Alamos Research Park (Site #8), short-radius bends will be removed and replaced with wider-radius fittings, known as 3R elbows, to facilitate ILI tool passage. This will require excavation to remove and install new pipe segments at locations where pipe is below ground, all within the existing NMGC 50-foot ROW. At one site (Site #4), fencing will also require excavation to place poles. Typical excavation would include the following:

- No laydown yards are expected. Materials and equipment will be located within the area footprints described.
- Trenching for pipe, conduit, and fence installation will typically reach depths of approximately 4 feet deep and pipes will be installed in trenches that are 3 feet wide.
- Trenches would occur within the same location, with up to 12 inches variance, as the original pipeline disturbance and placement occurred.
- The projected area of disturbance within the floodplain is 3.38 acres.
- Excavated soil will be stockpiled within the ROW, typically upslope of the trench.
- The excavation sites will be backfilled with the originally excavated materials.
- Restoration vegetation planted in association with the maintenance activities of these project sites will be native species appropriate for the elevation and forest type as prescribed in the LANL Biological Resources Management Plan and the LANL Engineering Manual.
- Disturbed areas will be restored to the original land contour.
- It is anticipated that trenches would be open for up to approximately 48 hours at each site. Any open excavation would be covered daily to avoid any wildlife or people falling in.
- Excavation activities would be suspended during high-intensity rainstorm events, typically during July and August, to prevent site and resource damage.
- Dust abatement measures will be implemented to prevent fugitive dust from vehicular traffic, equipment operations, or wind events.
- Spill prevention measures, including inspecting heavy equipment daily for leaks and refueling at least 100 feet away from waterways, will be implemented as part of spill prevention and response.
- Materials used for minor modifications, elbows, and small sections of pipe, will be pretested at NMGC's contractor's yard prior to installation. Construction equipment could include small-tracked excavators, bulldozers, side booms, portable gas generators (typically up to 20 horsepower), and air compressors.

## Floodplain Impacts

LANL utilizes an Integrated Review Tool which includes the Project and Activity Review (PAR) to identify project requirements, including regulatory compliance requirements. Subject matter experts identify, evaluate, and resolve project-specific considerations in an Environmental Requirements Summary. These considerations include, but are not limited to, underground utilities, contaminated soils, spills and leaks, soil disturbance and stabilization, threatened and endangered species habitat, and the presence of floodplains or wetlands, as well as applicable regulatory requirements such as U.S. Army Corps of Engineers permits and Clean Water Act authorizations. This review process supports the evaluation of potential impacts to natural and beneficial floodplain values, as well as potential risks to life and property. The assessment identified floodplains within Project Sites #1 and #2.

Site #1 includes the replacement of existing 8-inch pipe with 12-inch pipe along NM 502, north of the highway. To accommodate the new section of 12-inch pipe and cross NM 502, a new 30-foot ROW is required. Approximately 2,000 linear feet of new 12-inch pipe will be installed. Of this, approximately 1,850 feet will be installed via trenching and approximately 150 feet by auger boring. Work will occur within the existing NM 502 ROW. Construction activities will disturb approximately 0.49 acres within the existing NMGC easement and an additional 0.59 acres within a newly established permanent easement on DOE managed lands for the 12-inch pipeline. TUAs will require approximately 1.6 acres for construction access and staging. These TUAs will be approximately 50 feet wide and located primarily north of the highway. Total disturbance at this site would be 2.68 acres.

At Site #2, the existing aboveground valve setting will be removed and replaced with underground piping. Approximately 100 feet to the south, a new aboveground piggable valve setting will be installed near the existing White Rock Border Station. This new valve will tie into the existing underground pipeline. Actuation of the valve will also occur. The valve actuation will be powered by a solar panel system consisting of a 2-foot by 2-foot panel mounted on a pole with a 2-foot by 2-foot concrete foundation. Electrical conduit will extend approximately 40 feet from the solar panel to the valve, requiring a 1-foot-wide trench for installation.

The site will be secured with fencing for an enclosed area of approximately 100 feet long by 30 feet wide. Construction activities at this location, including vegetation clearing and fence installation, are expected to result in approximately 0.7 acres of disturbance. Site access will be from NM 502.

## Short-term Impacts

The following requirements were identified and reviewed in the PAR process and presented to the NMGC in separate Environmental Requirement Summaries.

- The project area contains potential habitat for two Endangered Species Act-listed species. Sites #7 and #8 occur within “Buffer” habitat as established in the Biological Resources Management Plan for the Jemez Mountains Salamander. “Core” habitat for the Mexican Spotted Owl is found at sites #4, #5, and #6; however, restrictions on construction activities within the Los Alamos Canyon are in place until August 31, 2026, to minimize impacts to the owl during breeding season.

- The Migratory Bird Treaty Act (MBTA) prohibits killing migratory birds, including nestlings and eggs. Migratory birds breed across LANL property. The risk from this project arises from the potential destruction of active bird nests, defined as nests with eggs or nestlings. NMGC has confirmed that no tree or shrub removal will occur as part of the proposed project; therefore, no impact will occur to birds protected by the MBTA.
- There are two recorded archaeological resources within 50 feet of the sites. NMGC must provide notice to LANL Cultural Resources Program personnel by email at least 30 days prior to the start of work, so they can begin on-site flagging and update activities in preparation for project activities within the proposed project area. The project construction activities must stay within the previously-disturbed shoulder of the highway. LANL archaeologists are required to be on site for monitoring when working within 50 feet of a recorded archaeological site boundary. Construction fencing must be installed around the archaeological site prior to the start of work. NMGC must coordinate with the Cultural Resources Program to ensure a monitor is on site during the fence installation. If any issues are encountered, the monitor has the power to pause work and consult with colleagues to determine the best path forward.
- A National Pollution Discharge Elimination System Construction General Permit would be required. This permit requires controls to limit soil erosion, sediment loss, and spills and leaks during and after construction. Controls would include temporary perimeter controls around bore pits and spoil piles upslope of the trenches to reduce sediment transport during construction, final stabilization to control erosion after construction activities are completed, and pollution prevention measures such as housekeeping and spill prevention. Any required vegetation stabilization will be completed in accordance with the NMGC Revegetation Plan for their project.
- The proposed project would be required to comply with the Energy Independence and Security Act (EISA), with implementation responsibility assigned to NMGC. EISA requires maintaining or restoring, to the maximum extent technically feasible, the site's predevelopment hydrology through the use of appropriate design and construction strategies for managing stormwater runoff. Standard Best Management Practices (BMPs) would be implemented during construction to minimize erosion and control runoff during precipitation events. The primary ground-disturbing activity associated with the project is trench excavation. Trenching activities would be conducted in a progressive manner, with excavated areas backfilled and compacted following installation of pipes and conduits as work advances along the alignment. All areas of disturbance will be returned to preconstruction contours and seeded in accordance with the LANL Engineering Seed Specifications.
- The proposed project would not include construction activities within any drainage. The drainage at Site #2 will be crossed to access the site through the pipeline easement at an established crossing. No alterations will be made to the drainage for this access. No impacts will occur to the drainage in order to facilitate access to the site. Temporary mats may be placed to allow equipment to cross the drainage freely without causing damage to the drainage.
- The proposed project would involve some disturbance of In-Progress Consent Order Sites C-00-00I [Pueblo Canyon system], and C-00-00J [Los Alamos Canyon system]. Since the proposed project cannot avoid disturbance to these Areas of Concern (AOCs), NMGC will contact the LANL Consent Order Site Coordinator prior to the execution of field work. Any disturbed soil from the AOC would be stabilized and managed within the AOC boundary and returned to the point of origin upon completion of the project. All excavated material would be maintained

within the AOCs, and none would be sent off-site. The project is required to take precautions to avoid inadvertently transporting potentially contaminated soil from the sites.

AOC contaminants of potential concern are summarized in Table 1. Existing sampling data can be viewed by the public on the Intellus website (<http://www.intellusnm.com>).

*Table 1: AOCs potentially impacted by the project activities*

| <b>AOC</b>   | <b>Description</b> | <b>Contaminants of Potential Concern</b>                                    |
|--------------|--------------------|-----------------------------------------------------------------------------|
| AOC C-00-005 | Pueblo Canyon      | Organic Compounds, Inorganic Chemicals, Radionuclides, PCBs, and Pesticides |
| AOC C-00-006 | Los Alamos Canyon  | Septic Tank Wastewater, Inorganic Chemicals, Radionuclides                  |

Potential short-term direct and indirect impacts to floodplains from pollutant releases and stormwater exposure would be avoided or minimized through implementation of the following BMPs:

- Hazardous materials, chemicals, fuels, and oils would not be stored within designated floodplain areas.
- Heavy equipment would be excluded from drainage channels, particularly during wet conditions when use could damage soil structure and increase erosion.
- Equipment refueling would occur a minimum of 100 feet from designated floodplain boundaries.

### Long-term Impacts

No long-term impacts to the floodplain are anticipated as a result of this project for NM 502 Pipe Replacement (Site #1). Flow paths within these floodplains would not be modified from pre-project conditions to post-project conditions.

The project at the White Rock Take-Off (Site #2) would result in an increase in aboveground pipe, corresponding to an approximate displacement increase of 190 gallons. No changes to surface elevations are anticipated as a result of construction activities at this site. While this represents a negligible long-term impact to the floodplain, the modification would eliminate the need to cross the drainage to access the existing valve structure (which will be removed), thereby reducing the potential for ongoing disturbance and impacts to the drainage and associated floodplain functions.

This assessment also considered the potential impacts of the proposed actions in the floodplain on habitat conservation for existing flora and fauna, aesthetic values, and public interest. The proposed project would not remove any protected habitat. The proposed project would not negatively impact aesthetic values or public interest because most of the sites are underground, the surface would return to its original state after construction is complete, and the sites are located in areas previously disturbed by roadway construction. The proposed project would not impact cultural resources because they would be identified and avoided, either by pre-construction surveys or by monitoring during construction by an archaeologist from the LANL Cultural Resources Program.

## Alternatives

Alternative alignments outside of the existing NMGC easement were considered but dismissed because they would require extensive acquisitions of new right-of-way, resulting in increased environmental impacts, higher costs, and additional permitting complexities. Limiting the project to the existing easement minimizes disturbance to previously undisturbed areas and reduces the potential for impacts to sensitive resources, including floodplains. Design modifications were incorporated to further avoid and minimize floodplain impacts where practicable. At Meson Valve Setting (Site #4), the construction footprint was adjusted to be entirely outside of the DOE-designated floodplain. At White Rock Take-Off (Site #2), an existing valve station will be relocated to eliminate the need to cross an ephemeral drainage. Alternative construction methods were also evaluated but determined to be impracticable for full project implementation due to technical and economic constraints. Accordingly, no practicable alternatives were identified that would meet the project purpose and need while resulting in fewer impacts than the Proposed Action.

## Conclusion

The proposed project would result in negligible direct and indirect impacts to the Los Alamos Canyon and the Pueblo Canyon floodplains. Temporary disturbances with the floodplains would cease following completion of construction activities. Best management practices would be implemented. This proposed project would not modify flow paths within the floodplains from pre-project to post-project conditions. No effects on lives and property associated with floodplain modifications are anticipated.

In accordance with 10 CFR Part 1022, DOE/NNSA will publish this Floodplain Assessment for a 15-day public review and comment period. After the close of the public comment period and prior to issuing a floodplain statement of finding, DOE/NNSA will reevaluate the practicability of alternatives to the proposed floodplain action, mitigating measures, and consider all substantive comments received during the public comment period.

## Literature Cited

EO 1977. Executive Order 11988 Floodplain Management. 42 Federal Register 26,251 (published May 25, 1977).

CFR 2003. 10 Code of Federal Regulations (CFR) Part 1022 Compliance with Floodplain and Wetland Environmental Review Requirements