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Los Alamos National Laboratory Floodplain Assessment for the Technical Area 72 Outdoor Live Fire Range Storage Units Installation Project

Los Alamos
NATIONAL LABORATORY

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Prepared for: U.S. Department of Energy
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ACRONYMS

AOC	Area of Concern
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
EO	Executive Order
ft.	feet
IRT	Integrated Review Tool
LANL	Los Alamos National Laboratory
NM 501	New Mexico State Road 501
NNSA	National Nuclear Security Administration
TA	Technical Area

INTRODUCTION

The National Nuclear Security Administration (NNSA), a semi-autonomous agency within the U.S. Department of Energy (DOE), is proposing new construction in lower Sandia Canyon at Technical Area (TA) 72 at the Outdoor Live Fire Range facility at Los Alamos National Laboratory (LANL). The proposed project is intended to provide storage for firing range supplies and consumables. The project activities within the 100-year floodplain include installation of at least seven prefabricated metal transportainer type storage units located at one of four locations (Figure 1).

NNSA has prepared this floodplain assessment in accordance with 10 Code of Federal Regulations (CFR) Part 1022 *Compliance with Floodplain and Wetland Environmental Review Requirements* (10 CFR Part 1022) (CFR 2003) which was promulgated to implement DOE requirements under Executive Order 11988 *Floodplain Management* (EO 1977). A floodplain is defined in 10 CFR 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 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 action, identifies alternatives to the Proposed Action, and allows for meaningful public comment.

DOE/NNSA has published this Floodplain Assessment for a 15 day for public review and comment period. Please provide comments on this Floodplain Assessment to Kristen Dors at:

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or

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After the close of the public comment period and prior to issuing a floodplain statment 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 implementing the proposed action.

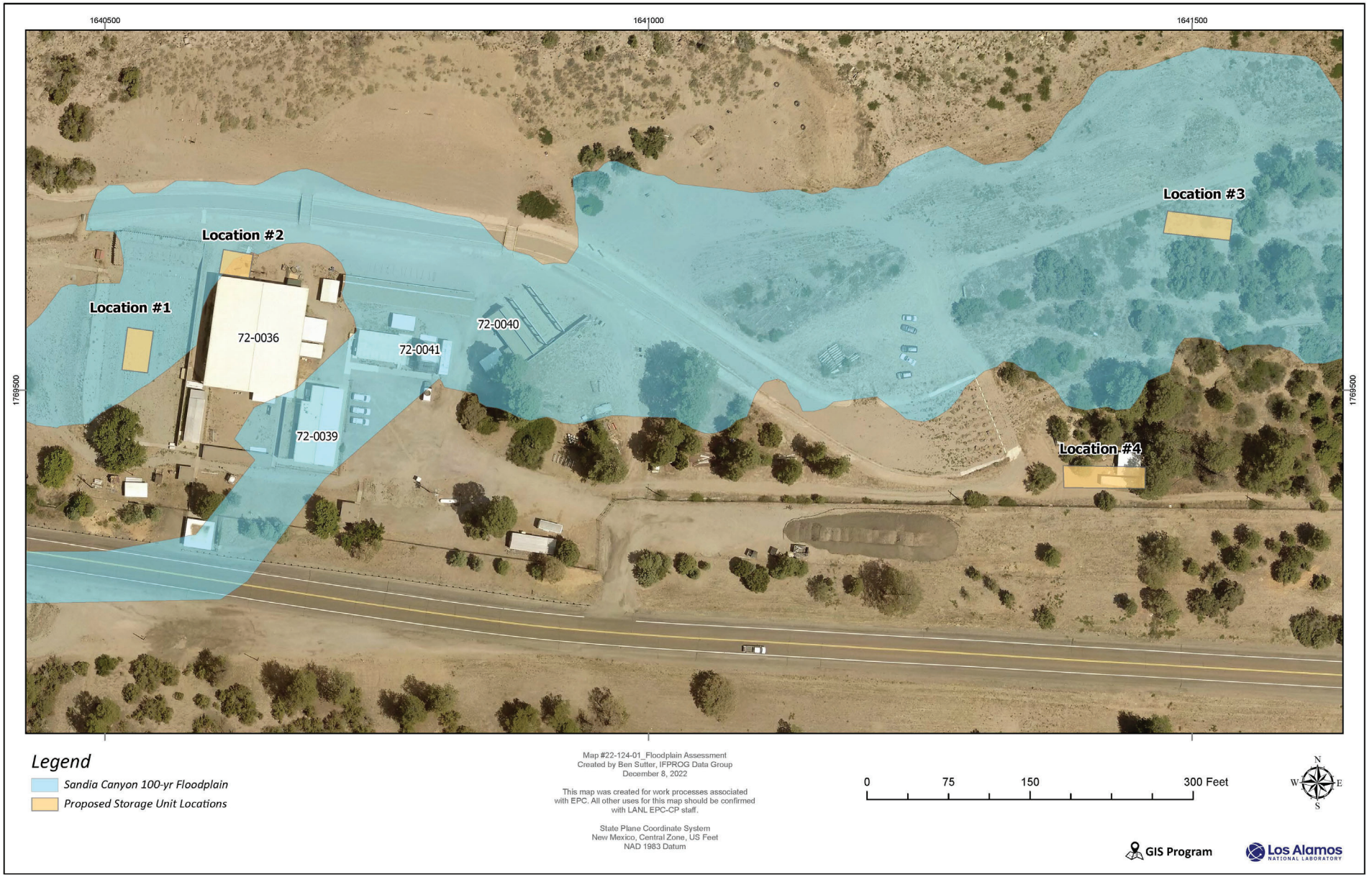

Figure 1. Map of Proposed Storage Units in Relation to the Sandia Canyon 100-year Floodplain.

BACKGROUND

The TA-72 Outdoor Live Fire Range is located on East Jemez Road approximately 1.5 miles east of New Mexico State Road 501 (NM 501). The proposed project area has had a live fire range since the 1950's. Over the years, the range has made multiple changes and improvements to the facilities. In 2019, the facility underwent significant updates and repairs to ensure capability is maintained for LANL Protective Force tactical training. Within the facility are multiple small ranges for use of different caliber munitions. Each range is sloped away from the stream channel to prevent stormwater runoff from the range from reaching the stream channel. Both reduced lead frangible and ball lead ammunition is used for training. At the end of each live fire training, participants walk the range and pick up brass, ammunition, and other debris for proper disposal. This facility is not open to the public but can be seen from a public road, NM 501.

In 2018, LANL proposed multiple upgrades to the TA-72 Outdoor Live Fire Range which included a 2400 ft^2 warehouse. A floodplain assessment was completed for the design (LANL 2018), but the warehouse was not constructed, leaving the facility with minimal capacity for storing the materials and supplies used at each range.

Prefabricated metal transportainer type storage units are proposed for installation at four locations throughout the TA-72 Outdoor Live Fire Range facility to store firing range supplies (e.g., targets, hand and power tools, and other consumables). No hazardous materials will be stored in the units. Three of the proposed locations are within the Sandia Canyon floodplain (Figure 1). The canyon bottom is developed with a paved road, dirt roads, parking areas, paved and gravel walkways, buildings, berms, and firing ranges stabilized with asphalt millings. The portion of the Sandia Canyon floodplain impacted by this project is approximately 4940 square feet (ft.) (0.113 acres) total.

PROJECT DESCRIPTION

The TA-72 Outdoor Live Fire Range is continuing process improvements to the site. This assessment focuses on activities occurring in or near the Sandia Canyon 100-year floodplain that include: 1) installation of at least three storage units at Location #1; 2) installation of two storage units at Location #2; and 3) installation of at least one storage unit at Location #3. Figure 1 shows the proposed storage unit locations within the Sandia Canyon floodplain. Location #4 is shown in Figure 1, however this site is not within the floodplain. Please note the LANL base aerial image as shown in Figure 1 has not been updated since the facility began significant modifications in 2019 and does not show upgrade ranges which were completed in 2020. A floodplain assessment was completed in 2018 for the range modifications which included exiting range upgrades, construction of new ranges, and streambed channel corrective actions (LANL 2018). All the proposed locations are in previously disturbed and developed areas. See Figures 2, 3, and 4 for photos of the proposed installation locations.

Location #1, to the west of Building 72-0036, was formerly Range 1 (Figure 2). The range was decommissioned in 2022 and converted to an administrative area for non-ballistic training and materials storage and retains its base course ground cover. Two 8 ft. by 40 ft. and one 8 ft. by 20 ft. storage units would be placed directly onto the existing base course or on the wooden beams

that each unit is delivered with. Additional storage units may be placed in this area in the future as needed by the facility.

Location #2, on the north side of Building 72-0036, is part of the area surrounding the main facility buildings used for vehicle access and is stabilized with asphalt millings (Figure 3). Two 8 ft. by 20 ft. storage units would be placed directly onto the existing asphalt millings or on the wooden beams delivered with the unit.

Location #3, to the east of the main buildings, is part of an area that underwent upgrades in 2018 (Figure 4) (LANL 2018). The additional firing ranges and associated access roads were stabilized with asphalt millings. One 8 ft. by 40 ft. storage unit would be placed directly onto the existing asphalt millings. An additional storage unit may be placed in this area in the future as needed by the facility.

Figure 2. Proposed Location #1 for Storage Units East of Building 72-0036 Looking South.

Figure 3. Proposed Location #2 for Storage Units North of Building 72-0036 Looking West.

Figure 4. Proposed Location #3 for a Storage Unit North of East Jemez Rd. Looking South.

FLOODPLAIN IMPACTS

LANL maintains an Integrated Review Tool (IRT) used by LANL subject matter experts to identify, evaluate and resolve project-specific issues such as presence of underground utilities, contaminated soils, spills and leaks, soil disturbance and stabilization, threatened and endangered species habitat, floodplains or wetlands, and regulatory agency authorizations such as US Army Corp of Engineers permit requirements and Clean Water Act permit requirements. The process aids in identifying potential impacts to the natural and beneficial floodplain values and potential effects on lives and property.

Short-term Impacts

The following requirements were identified and reviewed in the IRT process to avoid potential impacts.

- This project is not 1 acre or larger and does not include soil disturbing activities; therefore will not require National Pollution Discharge Elimination System Construction General Permit coverage. However, the project is required to utilize appropriate best management practices to contain potential pollutants (e.g., fuel, oil) within the work site limits and away from potential stormwater flow.
- Proposed activities in the floodplain do not significantly alter the current hydrology. This project will not be required to meet Energy Independence and Security Act Section 438 compliance in the area of the floodplain.
- There will be no soil-disturbing activities in the watercourse; therefore, this project will not require Clean Water Act Section 404 permit coverage or 401 certification.
- No historical or archeological sites are located in the areas of proposed disturbance in the floodplain. No impacts are expected to occur to cultural resources; however, the project must follow the proper procedure for inadvertent discoveries.
- The project is not located in threatened or endangered species habitat; therefore, no impacts will occur to current listed species in the Los Alamos County area.
- The project will involve minimal disturbance of the Sandia Canyon Area of Concern[1] (AOC) C-00-007 and a small arms firing range AOC 72-0001. The project is required to take precautions to avoid inadvertently transporting potentially contaminated soil from the sites while placing the storage units.

[1]An AOC is any area having a known or suspected release of hazardous waste or hazardous constituents that is not from a solid waste management unit and that the Secretary of the New Mexico Environment Department has determined may pose a current or potential threat to human health or the environment.

The Sandia Canyon AOC C-00-007 occupies the same footprint as the Sandia Canyon 100-yr floodplain. The 100-yr floodplain represents the extent to which post-Lab aged sediments and contaminants could have been deposited and therefore, is used to delineate the extent of the AOC. AOC 72-0001 is an active small-arms firing and training ranged used by the LANL security force and has operated as a firing range since 1966. AOC contaminants of potential concern are summarized in Table 1. Existing sampling data can be viewed by the public in the Intellus website (http://www.intellusnm.com).

Table 1. AOCs potentially impacted by project activities.

AOC	Description	Contaminants of Potential Concern
C-00-007	Sandia Canyon system	Organic Chemicals, Inorganic Chemicals, Radionuclides, PCBs
72-0001	Small arms firing and training range	Copper, Gross-alpha, Lead

Excavation is not part of the work scope and soil is not expected to be disturbed or removed from the AOCs as a result of installation activities. The project is required to take precautions to avoid inadvertently transporting potentially contaminated soil from the sites while placing the storage units. If any soil is removed from the AOC, it must be disposed of in accordance with the LANL Waste Management Procedure P409 (LANL 2022).

Potential short-term direct and indirect floodplain impacts from release of pollutants to the floodplain and exposure to stormwater would be avoided or minimized through implementation of the following best management practices:

- Hazardous materials, chemicals, fuels, and oils would not be stored within the floodplain.
- Heavy equipment would not be used within the stream channel, especially if conditions are too wet to prevent damage to the soil structure.
- Equipment would be refueled at least 100 ft. from the Sandia Canyon bottom.

Potential direct effects to migratory birds and other biological resources are minimal, as little or no habitat would be disturbed. The Migratory Bird Treaty Act prohibits killing migratory birds, including nestlings and eggs in an active nest. Therefore, if vegetation removal is required, during the nesting season (May 15 through July 15), an onsite inspection for bird nests from LANL Biological Resource subject matter experts would be required. Installation activities would conform to requirements stipulated in the Migratory Bird Best Management Practices Source Document for Los Alamos National Laboratory (LANL 2020).

Long-term Impacts

No long-term impacts to the floodplain are anticipated as a result of this project. The proposed installation of storage units is limited to the existing disturbed and developed areas of the firing range. Flow paths within the floodplain would not be significantly modified from pre-project conditions to post project conditions. The storage units within the floodplain will be monitored after high flow events in case debris becomes entrapped on the units. In the event this occurs,

maintenance activities will be scheduled in addition to upstream culvert inspection and maintenance.

This assessment also considered the impacts of the proposed actions in the floodplain on the conservation of habitat for existing flora and fauna, aesthetic values, and public interest. The proposed action will not impact cultural resources because there are none in the project area. The proposed action would not remove any protected habitat. The proposed action is not considered to negatively impact aesthetic values because the proposed action will occur in areas that have been previously disturbed and are not accessible to the public.

ALTERNATIVES

The alternatives available to DOE/NNSA include the no action alternative. The no action alternative was not selected by DOE/NNSA because the TA-72 Outdoor Live Fire Range facility currently does not have enough closed in space to store firing range supplies.

The alternative of off-site storage was not selected because of the time and fuel spent by staff to travel 32 miles round trip every time firing range supplies are needed. Access to on-site storage reduces overall cost and impact to programmatic schedules.

In 2018, LANL proposed multiple upgrades to the TA-72 Outdoor Live Fire Range which included the alternative of constructing a 2400 ft^2 warehouse with associated holding tank. A floodplain assessment was completed for the design (LANL 2018), but the warehouse was not constructed due to utility and security siting issues.

CONCLUSIONS

The proposed project would result in limited and minor direct and indirect impacts to the Sandia Canyon 100-year floodplain and would not result in adverse impacts to the floodplain values or functions. Temporary disturbance within the floodplain would cease following completion of installation activities. Best management practices would be implemented. This proposed project would not significantly modify flow paths within the floodplain from pre-project conditions to post project conditions. No effects to lives and property associated with floodplain modifications are anticipated.

In accordance with 10 CFR 1022, DOE/NNSA will publish this Floodplain Assessment for a 15 day for public review and comment period. After the close of the public comment period and prior to issuing a floodplain statment of finding 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.

LITERATURE CITED

EO 1977. Executive Order 11988 *Floodplain Management.*

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

LANL 2018. *Floodplain Assessment for the TA-72 Outdoor Fire Range Upgrades and Channel Stabilization Projects at Los Alamos National Laboratory*. LA-UR-18-29766.

LANL 2020. *Migratory bird best management practices source document for Los Alamos National Laboratory revised November 2020*. Stanek, J.E., Thompson, B.E., Sanchez, A.A., Berryhill, J.T. and C.D. Hathcock, LA-UR-20-24292.

LANL 2022. P409, *LANL Waste Management*.