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Floodplain Assessment for the Proposed Fire Break at the Lower Slobbovia Firing Site at Los Alamos National Laboratory

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Prepared for: U.S. Department of Energy
National Nuclear Security Administration
Los Alamos Field Office

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FIGURE

PHOTOGRAPH

ACRONYMS

CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
LANL	Los Alamos National Laboratory
TA	Technical Area

INTRODUCTION

This floodplain assessment was prepared in accordance with 10 Code of Federal Regulations (CFR) 1022 *Compliance with Floodplain and Wetland Environmental Review Requirements*, which was promulgated to implement the U.S. Department of Energy (DOE) requirements under Executive Order 11988 *Floodplain Management* and Executive Order 11990 *Wetlands Protection*. According to 10 CFR 1022, a 100-year floodplain[1] is defined as "the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands."

In this action, DOE is proposing to install a permanent firebreak across the canyon bottom, which includes approximately 300 ft (91.5 m) of the 100-year floodplain. The proposed work will occur in Potrillo Canyon in Technical Area (TA) 36 (Figure 1). The purpose of this work is to further reduce wildfire risk in upper Potrillo Canyon from the Lower Slobbovia firing site operations at Los Alamos National Laboratory (LANL). Lower Slobbovia contains one active firing point and a control building that is part of Weapons Facility Operations. Shots fired at this site primarily involves high explosives and metals. The existing landscape is thinned in some areas, but has not been mitigated to the extent optimized for these types of shots (Photograph 1); thus, surrounding forests and infrastructure in Potrillo Canyon remain threatened. The proposed project will result in vegetation removal and added ground stabilization within the 100-year floodplain (hereafter floodplain).

DOE prepared this floodplain assessment to evaluate the potential impacts of implementing the proposed action within a floodplain, as required by 10 CFR 1022.

PROJECT DESCRIPTIONS

The proposed project is located in TA-36 adjacent to the eastern section of Potrillo Drive in Potrillo Canyon. The firebreak will be approximately 60 ft (18.2 m) wide and extend across the length of the canyon bottom, through the floodplain. The canyon bottom is relatively flat and receives minimal flow; thus, there is not a clear channel defined in the proposed project limits. All vegetation will be removed within the firebreak boundary and routinely mowed to prevent regrowth. Rock check dams will be placed within the approximate flow line on the east and west side of the firebreak to prevent erosion from loss of vegetation in the firebreak. Additionally, a number of ponderosa pines (*Pinus ponderosa)* outside the firebreak boundaries will be limbed to decrease chances of a crown fire starting. The existing ground cover is a grassland with an over story of ponderosa pine.

The work within the firebreak may include, but is not limited to, removal of all vegetation, placement of compacted base course, erosion controls for stabilization, tree limbing around the site, and routine maintenance. Any soil disturbance outside of the firebreak will be reseeded at the completion of the project.

[1] A 100-year floodplain is a base floodplain with a 1.0 percent chance of flooding in any given year.

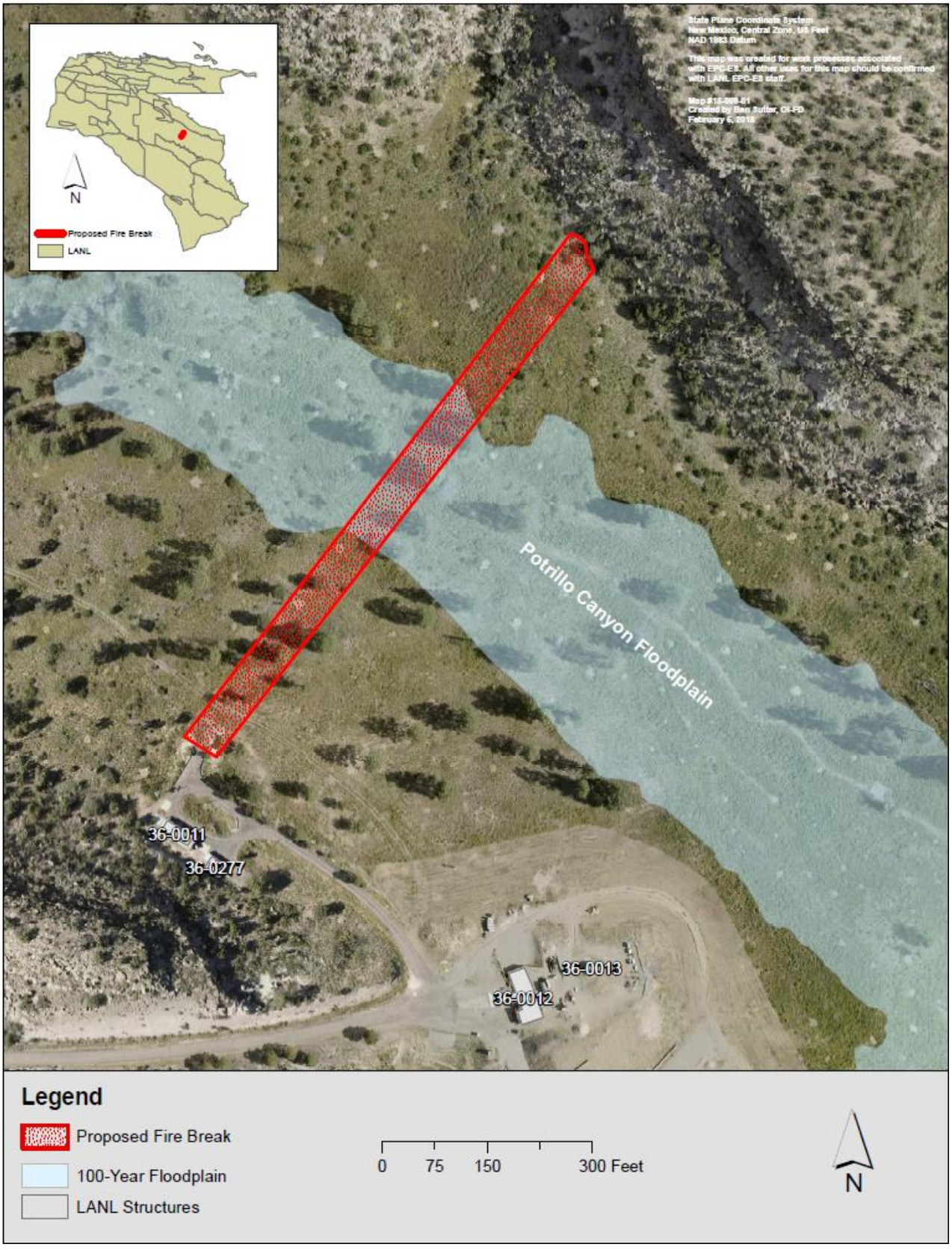

Figure 1. Proposed project areas in Potrillo Canyon in TA-36

Photograph 1. Existing vegetation cover in the proposed firebreak within the floodplain

FLOODPLAIN IMPACTS

Ground disturbance within the floodplain will only occur during vegetation removal and maintenance. The negative, short-term effects to the floodplain will be from vehicle and heavy equipment access that will compact the soil and cause vegetation loss. Trees, shrubs, and additional vegetation will be removed across the firebreak to accommodate the project.

No negative, long-term impacts to the floodplain are expected under the proposed project. The project area landscape is flat, with a slope less than 1.5 percent, and the canyon receives minimal flow from upstream drainages. Sheet flow dominates across the width of the canyon bottom so there is no defined channel. The firebreak will not change the elevations or flow paths; thus, the potential for erosion, sediment transport, and flooding following completion of this project will remain the same. Rock check dams will be constructed within the approximate flow lines as precautionary erosion controls for vegetation loss in the firebreak. This project will not reduce the effectiveness of the natural floodplain processes. No effects to lives or property associated with floodplain disturbance are anticipated.

Long-term, positive effects to the floodplain are associated with protection of vegetation upstream of the project area. Implementation of the firebreak would reduce the potential for adverse flooding effects, erosion, sediment transport, and water quality degradation that could result from a catastrophic wildfire.

Negative, short-term effects from the project will be mitigated and minimized by the implementation of the following best management practices for work in floodplains during construction.

- Any disturbed areas outside of the firebreak will be revegetated or stabilized with an appropriate stabilization method. Approved stabilization methods include revegetation with native seed mix and planting within 30 days or at the beginning of the growing season after construction is complete.
- Hazardous materials, chemicals, fuels, and oils will not be stored within the floodplain.
- Work in a floodplain will not take place when the soil is too wet to adequately support equipment.
- Equipment will be refueled at least 100 ft (30 m) from any drainage, including dry arroyos.

Compliance with the Migratory Bird Treaty Act restricts vegetation removal during the peak bird breeding season, May 15 through July 31, unless biological resources staff at LANL have conducted a nest check to ensure that there are no nesting birds present. If active nests are found, the nest tree or shrub will be left in place until the nesting is complete.

ALTERNATIVES

The only alternative evaluated was a no action alternative. DOE prepared the 2000 "Environmental Assessment for the Wildfire Hazard Reduction and Forest Health Improvement" (DOE-EA-1329) to (1) reduce the risk of damage and injury to property, human life and health, and biological resources from high-intensity wildfires at LANL and (2) enhance forest health at LANL. The proposed action will allow DOE to mitigate wildfire threats and comply with the environmental assessment; thus, a no action alternative was not selected.

CONCLUSIONS

This project will not result in long-term, adverse impacts to the floodplain. Temporary disturbance within the floodplain will cease following completion of firebreak activities. Best management practices will be implemented. This proposed project will not significantly modify existing elevations and flow paths within the floodplain upstream and downstream of the project from pre-project conditions to post-project conditions or result in other long-term, negative impacts to the floodplain and its functionality. No effects to lives and property associated with floodplain modifications are anticipated.

In accordance with 10 CFR 1022, a Statement of Findings based on the information in this document will be published and available for public review. This statement will include a brief description of the proposed project, an explanation of why it is located in a floodplain, the alternatives considered, a statement indicating if the action conforms to state and local floodplain requirements, and a brief description of the steps to be taken to minimize potential harm within the floodplain.