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# Wetland Assessment for the Middle Mortandad Controls Supplemental Environmental Project at Los Alamos National Laboratory

## Notice of Proposed Wetland Action

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

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## ACRONYMS

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

## INTRODUCTION

This wetland 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, wetland is defined as "an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas".

In this action, DOE is proposing to install storm water controls to improve water quality and allow surface water management in the Mortandad watershed at Los Alamos National Laboratory (LANL). The proposed work will occur along the northeast border of Technical Area (TA)-55, and into the southeastern border of TA-48, in the canyon bottom. The purpose of this work is to reduce peak discharge from storm water runoff and minimize erosion and sediment loads at the watershed level. The controls will be installed near and within an established wetland. The proposed work will comply with requirements under the Settlement Agreement and Stipulated Final Compliance Order (Settlement Agreement)[1] Number HWB-14-20.

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

## PROJECT DESCRIPTIONS

The project is located in Mortandad Canyon, which receives runoff from TA-48, TA-55 and TA-35 (Figure 1). There is currently evidence of active erosion and sediment transport from the TA-55 detention pond discharge point (Photograph 1). An aboveground pipeline will run from the top of the canyon edge down into the canyon bottom (Photograph 2) and across the width of the channel (Photograph 3), avoiding the eroded area. The construction work in the bottom of Mortandad Canyon will involve disturbing a small portion of the wetland. The project includes, but is not limited to, installation of an above ground high density polyethylene pipeline with supports and anchorages, a pipe support system across a low lying area, a reinforced concrete headwall, a reinforced concrete baffle structure, a riprap rundown, and a gabion grade-control structure with a spillway (Figure 2). The riprap rundown and gabion grade control structure will be constructed within the wetland boundaries, the other design components are all outside the wetland.

[1] Settlement Agreement Number HWB-14-20 is the agreement between the Hazardous Waste Bureau of the New Mexico Environment Department and the U.S. Department of Energy and Los Alamos National Security, LLC. The agreement settles and completely resolves the alleged violations contained in the December 6, 2014, Los Alamos National Laboratory Order, and any future claims, penalties, fines, liabilities or other sanctions against the Respondents and their officers, directors, employees, agents, constituent agencies, contractors, subsidiaries, successors, assignees, trustees, receivers, and other affiliates arising from or related to the February 14, 2014, incident at the Waste Isolation Pilot Plant.

Tree species observed and recorded in the wetland include: water birch (*Betula occidentalis*), Russian olive (*Elaeagnus angustifolia*), and narrowleaf cottonwood (*Populus angustifolia*). Other wetland plant species recorded include: narrowleaf willow (*Salix exigua*), mountain rush (*Juncus arcticus*), longstyle rush (*Juncus longistylis*), grassleaf rush (*Juncus marginatus*), poverty rush (*Juncus tenuis*), bottlebrush sedge (*Carex hystericina*), panicled bulrush (*Scirpus microcarpus*), cattail (*Typha latifolia*), and broom sedge (*Carex scoparia*).

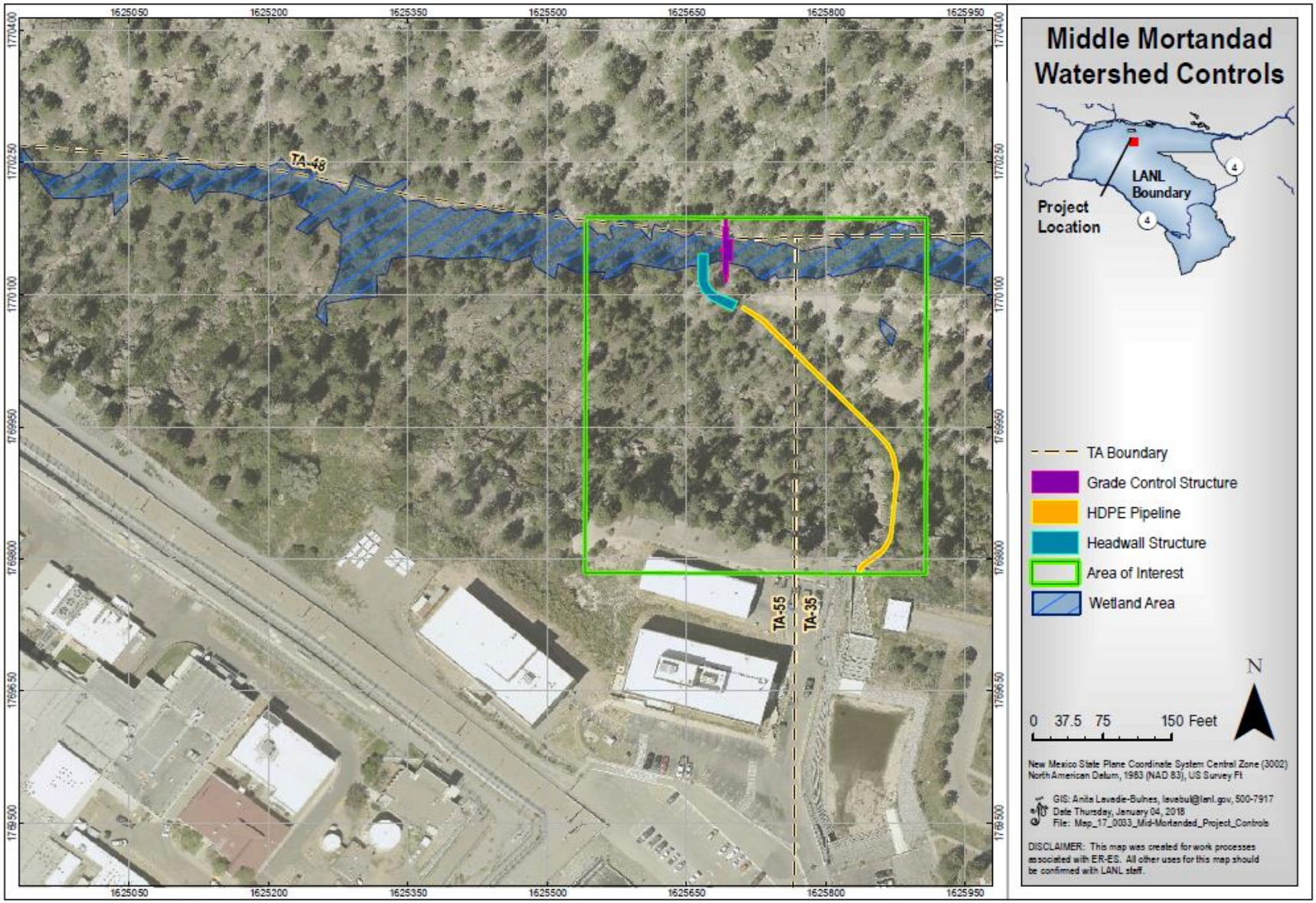
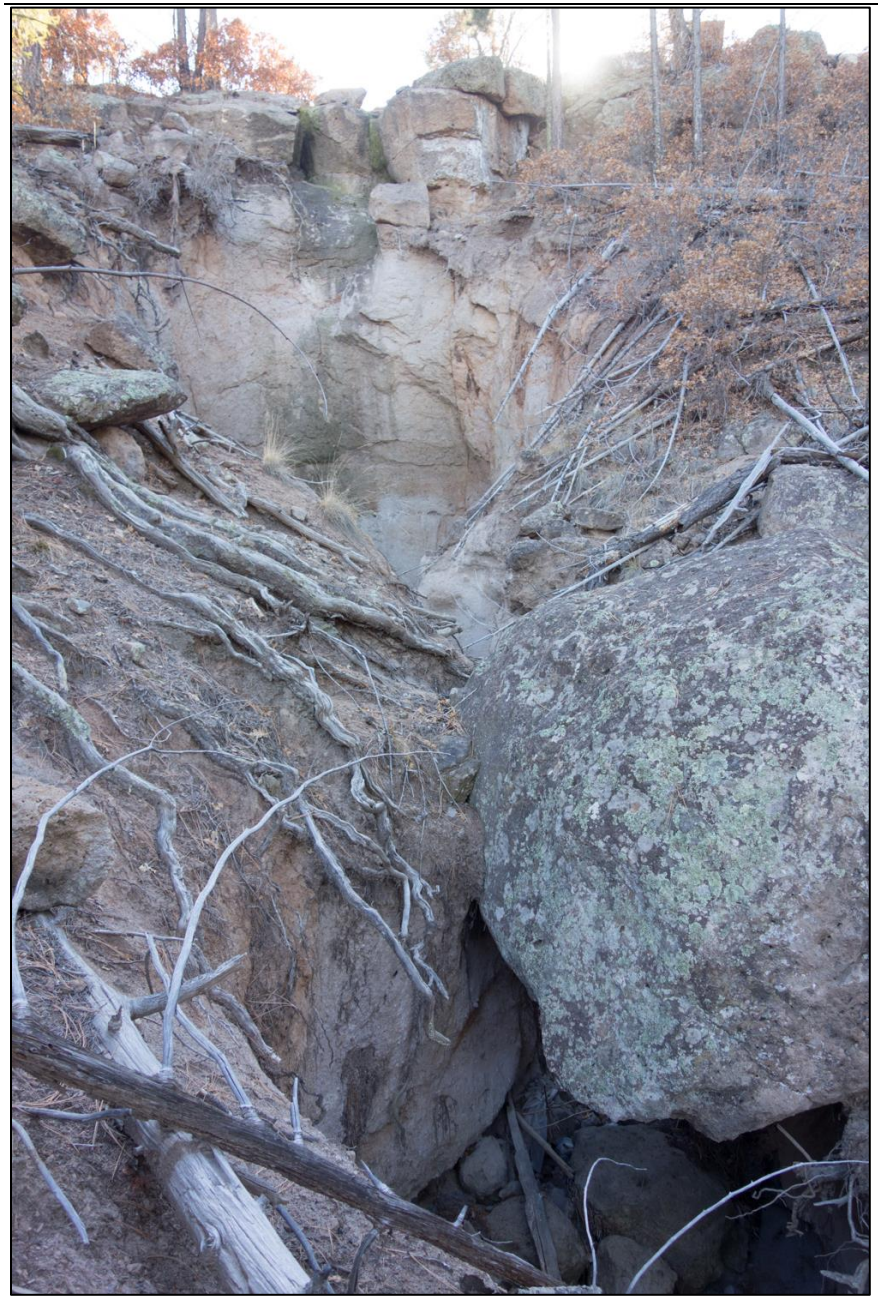



**Figure 1.** Proposed project area in the Mortandad Watershed.



**Photograph 1**. Active erosion from TA-55 discharge and the proposed location of the canyon edge section of the pipeline.

**Photograph 2.** Blue flags represent the location of the proposed pipeline as it approaches the wetland in the canyon bottom.

**Photograph 3.** Location of the gabion grade control structure facing north across the channel in the wetland.

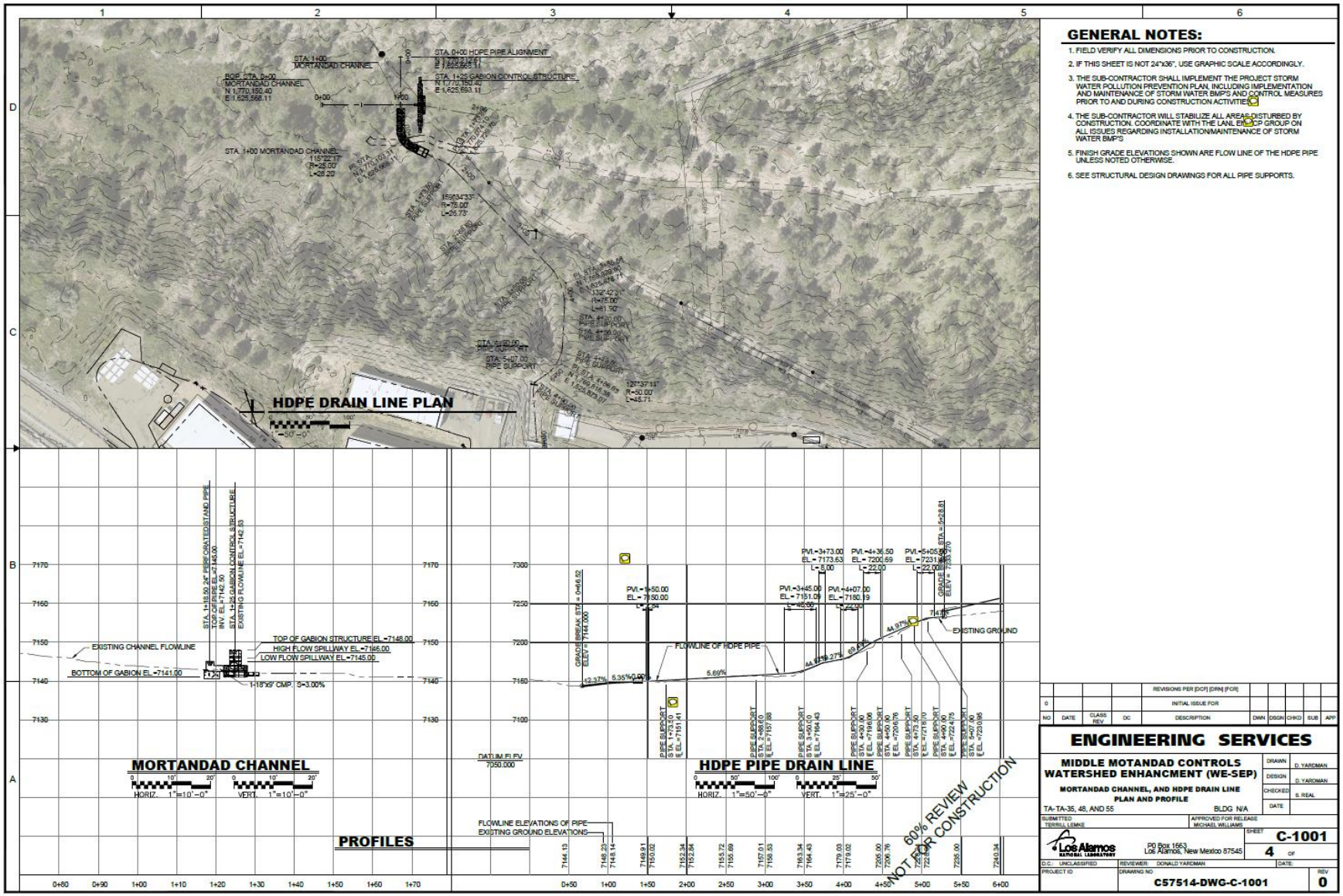



**Figure 2.** The 60% engineering design map.

## WETLAND IMPACTS

The total proposed ground disturbance for the project will be 0.75 ac (0.30 ha) and the approximate wetland disturbance will be only 5% of the total which is 0.04 ac (0.02 ha). There will be negative, short-term effects to the wetland from vehicle and heavy equipment access that will compact the soil and cause vegetation loss. Some trees and large shrubs will need to be removed on a case-by-case basis to accommodate the control structures within the site. The potential for erosion, sediment transport, and flood hazard will be lower at the completion of this project compared with preconstruction conditions. For a limited time, sediment will accumulate behind the structure until it reaches the gabion spillway elevation. The sedimentation will increase the depth to water table by approximately 2 ft (0.61 m) directly behind the gabion structure; however, it will not cause adverse effects to the wetland functionality because the wetland plants have roots that easily penetrate the soil into shallow water table.

No negative, long-term impacts to the wetland are expected under the proposed project. Positive, long-term impacts to the wetland include: reduced erosion and sedimentation from high flow velocities in the channel and off of the canyon edge, permanent stabilization of the wetland slope behind the grade control and potential retention of water in a localized section of the wetland behind the grade control structure. No effects to lives or property associated with wetland disturbance are anticipated.

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

- Support structures such as personnel trailers will not be located within the wetland.
- Any disturbed areas will be revegetated with an appropriate native seed mix or plants within 30 days or at the beginning of the growing season after construction is completed.
- When feasible, excavated wetland plant material will be stockpiled, preserved and replanted when construction ceases. Supplemental wetland vegetation will be planted, as needed, to meet revegetation requirements.
- Hazardous materials, chemicals, fuels, and oils will not be stored within the wetland.
- 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. If possible, the project will remove trees and shrubs before the breeding season begins as a best management practice.

## ALTERNATIVES

In an attempt to reduce the wetland impacts, an alternative route for the pipeline was considered that would discharge into the channel below the wetland (this is where the existing side channel meets the main channel). Based on soil data, it was determined that the alternative route could potentially increase mobilization of pollutants present in the sediment at that location and further downstream in the channel. This alternative was not selected for the design.

A no action alternative was not selected because it would not allow DOE to fulfill its requirements under the 2015 Settlement Agreement Compliance Order No HWB-14-20 to control storm water by slowing water velocities and manage sediments from the watershed.

## CONCLUSIONS

This project will not result in long-term adverse impacts to the wetland. Temporary disturbance within the wetland will cease following completion of construction activities and any damage that occurred during construction will be mitigated by revegetating with native plants. Best management practices will be implemented during mitigation and stabilization of the project area. This proposed project will not significantly modify existing elevations and flow paths within the wetland upstream or downstream of the project from pre-project conditions to post-project conditions or result in other long-term negative impacts to the wetland and its functionality. The overall size of the wetland is not expected to change.

In accordance with 10 CFR 1022 this document will be published on the NNSA Los Alamos Field Office NEPA Reading Room website (https://nnsa.energy.gov/aboutus/ouroperations/generalcounsel/nepaoverview/nepa/lafo) and available for public review and a 15-day public comment period. After consideration of all substantive comments and reevaluation of the proposed wetland action, work may commence. Subsequently, DOE will verify that the implementation of the wetland action is proceeding as described in this wetland assessment.