PROJECT/ACTIVITY TITLE: Upper Cañon de	Accession No:22183	Date:	September	20,
Valle Watershed Enhancement Project	PRID No: 16P-0240	2017		

PURPOSE: Implement a watershed enhancement subproject in the Cañon de Valle watershed to reduce soil erosion and slow stormwater flow in compliance with the 2016 Settlement Agreement between New Mexico Environment Department (NMED) and the Department of Energy (DOE) that stipulated the identification and completion of Supplemental Environmental Projects (SEPs) at Los Alamos National Laboratory (LANL).¹

Location : Technical Area 16 within an old borrow pit adjacent to West Jemez Road and extending east-southeast to Crossroads Road.	Projec 665-23	t Conta 97. tlemk	ct: Terr	ill Lemke,	ADES	H-EPC-CP,
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NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COVERAGE: Department of Energy National Environmental Policy Act Implementing Procedures 10 Code of Federal Regulations Part 1021, Appendix B to Subpart D of Part 1021—Categorical Exclusions Applicable to Specific Agency Actions [there are three categorical exclusions to the proposed action]:

B1.3 Routine maintenance

Routine maintenance activities and custodial services for buildings, structures, rights-of-way, infrastructures (including, but not limited to, pathways, roads, and railroads), vehicles and equipment, and localized vegetation and pest control, during which operations may be suspended and resumed, provided that the activities would be conducted in a manner in accordance with applicable requirements. Custodial services are activities to preserve facility appearance, working conditions, and sanitation (such as cleaning, window washing, lawn mowing, trash collection, painting, and snow removal). Routine maintenance activities, corrective (that is, repair), preventive, and predictive, are required to maintain and preserve buildings, structures, infrastructures, and equipment in a condition suitable for a facility to be used for its designated purpose. Such maintenance may occur as a result of severe weather (such as hurricanes, floods, and tornados), wildfires, and other such events. Routine maintenance may result in replacement to the extent that replacement is in-kind and is not a substantial upgrade or improvement. In-kind replacement includes installation of new components to replace outmoded components, provided that the replacement does not result in a significant change in the expected useful life, design capacity, or function of the facility. Routine maintenance does not include replacement of a major component that significantly extends the originally intended useful life of a facility (for example, it does not include the replacement of a reactor vessel near the end of its useful life). Routine maintenance activities include, but are not limited to:

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(k) Erosion control and soil stabilization measures (such as reseeding, gabions, grading, and revegetation);

¹ Settlement Agreement Number HWB-14-20. This is the agreement between the Hazardous Waste Bureau of the New Mexico Environmental 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, assigns, trustees, receivers, and other affiliates arising from or related to the February 14, 2014 incident at the Waste Isolation Pilot Plant.

B1.33 Stormwater runoff control

Design, construction, and operation of control practices to reduce stormwater runoff and maintain natural hydrology. Activities include, but are not limited to, those that reduce impervious surfaces (such as vegetative practices and use of porous pavements), best management practices (such as silt fences, straw wattles, and fiber rolls), and use of green infrastructure or other low impact development practices (such as cisterns and green roofs).

B6.1 Cleanup actions

Small-scale, short-term cleanup actions, under RCRA, Atomic Energy Act, or other authorities, less than approximately 10 million dollars in cost (in 2011 dollars), to reduce risk to human health or the environment from the release or threat of release of a hazardous substance other than high-level radioactive waste and spent nuclear fuel, including treatment (such as incineration, encapsulation, physical or chemical separation, and compaction), recovery, storage, or disposal of wastes at existing facilities currently handling the type of waste involved in the action. These actions include, but are not limited to:

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(i) Drainage controls (such as run-off or run-on diversion) if needed to reduce offsite migration of hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum or natural gas products or to prevent precipitation or run-off from other sources from entering the release area from other areas;

BACKGROUND

In 2014, the NMED Hazardous Waste Bureau (HWB) issued compliance orders HWB-14-20 and HWB-14-21 for violations of the New Mexico Hazardous Waste Act. These violations stemmed from improper packaging of transuranic waste from LANL and disposed of at the DOE Waste Isolation Pilot Plant in Carlsbad, New Mexico. The resulting 2016 Settlement Agreement between NMED and DOE stipulates that SEPs shall be completed. Stormwater and/or watershed enhancement projects, currently numbering six subprojects, at LANL are one of the SEP categories.

The goal of the watershed enhancement SEPs is to "slow stormwater flow and decrease sediment load to improve water quality in the area, allowing surface water management at a watershed scale." Addressing sediment load would improve water quality because stormwater runoff high in sediments carries a number of pollutants off developed sites. Initial project locations were identified by a core team led by the NMED Oversight Bureau that included subject matter experts from DOE, NMED Surface Water Quality Bureau, NMED Hazardous Waste Bureau, Los Alamos County, the Pueblo de San Ildefonso, and Los Alamos National Security, LLC. Projects are described in the 2016 Work Plan² submitted to NMED. The proposed Upper Cañon de Valle Watershed Enhancement Project is one of the six SEP subprojects currently proposed for watershed enhancement SEP is designed to prevent long-term adverse environmental impacts.

² Addendum 2: Storm Water Engineering Structure Work Plan, Los Alamos National Laboratory report LA-UR 16-29160, December 2016.

DESCRIPTION OF PROPOSED ACTION

The proposed Cañon de Valle watershed enhancement project is located in Technical Area 16 in an old borrow pit³ adjacent to West Jemez Road and extending east-southeast to Crossroads Road (Figure 1). The goal of this project is to slow stormwater runoff thereby allowing for additional infiltration and to reduce peak stormwater flow downstream. Stormwater enters the site from the upper reaches of the Cañon de Valle watershed through a double-barrel culvert under West Jemez Road. A channelized section of the watershed conveys water east-southeast from the culverts (Photographs 1 - 3) and then north paralleling Anchor Ranch Road. Currently, the channelized section shows a combination of steep, near vertical aggrading side slopes pushing sediments into the channel. A gravel access road with three culverts underneath it is located downstream of the channelized section. Two of the culverts are completely buried in sediment and the third remains operational. Water from past storm events has backed up from this area and flowed out on to Anchor Ranch Road to the east of this crossing and has damaged LANL infrastructure in Technical Area 16.



Figure 1: Project Area

³ This borrow pit location is also proposed for a photovoltaic solar power system. No conflicting land use issues were identified at a May 11, 2017, meeting of subject matter experts.



Photograph 1: Looking east-southeast, note the amount of channel incision and near vertical walls



Photograph 2: Looking west from the location of the proposed low-water crossing. The official 100 year floodplain boundary ends here and turns south.



Photograph 3: Looking east from the proposed low-water crossing. This is the new channel that is not part of the official 100-year floodplain.

The proposed project is designed to control stormwater runon by slowing water velocity and managing sediments from the upper watershed with a number of new watershed controls in five areas. These areas follow a left-to-right progression on the Figure 1 map.

Area 1 is just downstream of the West Jemez Road culverts. Two step-down velocity control structures (or rock check dams) will be placed in the floodplain using native boulders. The placement of the boulders will affect water velocity dissipation as it enters the site from the culverts. Native boulders in sufficient quantity exist in the project vicinity originating from an old borrow pit. Mechanized equipment is required to move the boulders.

Area 2 is just downstream of Area 1 where the channel banks are failing with undercutting and near vertical side slopes (Photograph 1). Project personnel will lay back the side slopes to a safe slope and armor the slopes with a commonly used erosion-control matting. Mechanized equipment will be used to lay back the slopes and install articulated concrete mats. Erosion-control matting will be applied by hand.

Area 3 is near the entrance to the borrow pit close to Crossroads Road (Photographs 2 and 3). The channel berms along the south bank of the main channel failed to hold back storm water in past events. This resulted in damage to downstream LANL facilities. The south berm will be reconstructed and reinforced in this area. Berm materials will be imported to build up the berm size. Reinforcement will include erosion-control matting and rock revetment (a reinforcement structure) along the toe of the slopes.

The access road is a gravel-fill road over the channel. Two of the three culverts underneath the access road have filled with sediments. The access road acts as a dam and is not constructed to hold water. Project personnel will remove the underlying culverts and fill material and install a low-flow crossing. The low-flow crossing will be at channel grade and will allow for control of water velocity through this area, preventing water buildup and flooding out of the channel. Articulated concrete mats will be put in place after grading activities are complete. The mats act to armor the channel bottom so that vehicles can pass safely through. Channel slopes upstream and downstream of the low-flow crossing (Photographs 2 and 3) will be shaped and reinforced with erosion-control matting.

Areas 4 and 5 are not within the current delineation of the floodplain.

Area 4 includes the installation of a low berm across a very flat and wide part of the extension of the channel. The low berm will act to slow water velocity from storm events and allow sediments to settle. Larger flows will flow over the low berm.

Area 5 includes the installation of a final berm in the channelized section of the reach. This overflow berm, like that of Area 4, will act as a last defense for controlling the migration of sediments further downstream. The berm will slow water and allow sediments to settle prior to water passing downstream. Additional berm reinforcement will be required to ensure that sediments and water do not migrate out of the channelized section.

IMPACT ASSESSMENT

By design the Proposed Action is to mitigate and prevent long-term adverse environmental impacts. See Table 1 below for an assessment of potential impacts.

Environmental Factor	Analysis
Land Use	No change to current conditions.
Visual	Minor change to current conditions from construction of erosion control structures.
Geology and Soils (geologic hazards, soil productivity, capability, erodibility, and mass failure)	Improvements will be made to stabilize the soils to withstand stormwater runoff events and prevent uncontrolled sediment transport.
Water (surface and groundwater quality and quantity, groundwater recharge, streamflow regimes)	Minimizing erosion would reduce sediment load and improve surface water quality in Cañon de Valle. A New Mexico Section 401 Water Quality Certification, and Army Corps of Engineers 404 Dredge and Fill Permit will be required for this project. LANS personnel will be required to conduct maintenance surveys after large storm events to evaluate proper functioning.
Non - radiological Air Quality	Minor generation of dust and engine exhaust during construction.
Radiological Air Quality	N/A
Noise	Heavy equipment would be used for construction. Noise impacts would be temporary (approximately two months) and there are no sensitive receptors in the area.

Table 1. Environmental	Factors	Checklist
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Environmental Factor	Analysis
Ecological (floodplains, wetlands, threatened or endangered species and habitat, migratory birds, exotic organisms)	There are no special interest [legally protected] species in the project location. Potential impacts to the floodplain were evaluated in the <i>Floodplain</i> <i>Assessment for the Upper Cañon de Valle Watershed Enhancement Project in</i> <i>Technical Area 16 at Los Alamos National Laboratory</i> (Los Alamos National Laboratory report LA-UR-17-27572, August 2017). The assessment does not identify any potential long-term adverse impacts to the floodplain. Temporary disturbance during construction will be minimized using best management practices
Human Health – Radiological Impacts on the Public	N/A
Human Health – Chemical Impacts on the Public	N/A
Human Health – Worker Health	Standard work practices will apply that safeguard worker health and accident prevention.
Cultural Resources (archeological and historical)	No effect.
Socioeconomics	Minor fiscal expenditure.
Infrastructure (roads, utility corridors, communications systems, energy & fuels, distribution systems, and water)	Improved stormwater control.
Waste Management	Minor amounts of construction waste.
Transportation	No impact to traffic flow.
Environmental Justice	N/A
Facility Accidents	N/A

Other watershed enhancement SEPs are under consideration as independent actions. No watershed enhancement SEP is dependent on the completion of any other watershed enhancement SEP. However, to the extent practical all proposed watershed enhancement SEPs have been reviewed in consideration of connected and cumulative actions that could have individually insignificant but cumulatively significant impacts. No cumulative and significant impacts have been identified. Thus far, Mortandad Canyon wetland enhancements, a SEP watershed enhancement subproject that has been completed, was analyzed and found to meet the criteria for a categorical exclusion from further NEPA analysis. The remaining watershed enhancement SEPs subprojects are tentatively proposed for locations other than Cañon de Valle and are not yet ripe for a detailed NEPA analysis. It is important to note that all proposed watershed enhancement SEPs are intended, and will be designed, to decrease long-term environmental impacts and have not and will not be segmented to meet the definition a categorical exclusion.

CONCLUSION

Based on this NEPA determination analysis, there are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects or threaten a violation of applicable

statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders. Consequently, no further NEPA analysis is necessary or required.

NEPA Determination

Based on my review of the Proposed Action, as the National Nuclear Security Administration's Los Alamos Field Office (NA-LA) NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the Proposed Action as described herein, falls within the DOE NEPA Implementing Procedures listed in 10 CFR Part 1021, Subpart D, Appendix B 10 CFR Part 1021, Appendix B to Subpart D of Part 1021— Categorical Exclusions Applicable to Specific Agency Actions: There are three categorical exclusions any or all of which apply: Categorical exclusions: *B1.3 Routine maintenance; B1.33 Stormwater runoff control;* and *B6.1. Cleanup actions*.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects or threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or executive orders. If changes are made to the scope of the action so that it is no longer bounded by the enclosed description, or the project is changed to encompass other actions, NEPA requirements for the action will need to be reassessed at that time and further analysis may be required.

NA-LA NEPA Compliance Officer: Jane Summerson	Date:
Signature: Kum	9/20/17