FEMA Fact Sheet

Marlette Lake Dam Resilient Infrastructure Project

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to improve the safety and operational functionality of Marlette Lake Dam in southern Washoe County, Nevada. FEMA is inviting public input on issues that should be examined in the environmental analysis of this project.

The Nevada State Public Works Division has applied to FEMA through the Nevada Division of Emergency Management (DEM) for a grant under FEMA's Pre-disaster Mitigation (PDM) Grant Program. Nevada DEM is the direct applicant for the grant, and the State Public Works Division is the Subapplicant. The PDM Grant Program is authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The purpose of the proposed project is to protect people and property by reducing the risk of a dam breach in the event of an earthquake at Marlette Lake Dam.

The Marlette Lake Dam is an earthen filled dam located approximately 1 mile east of Lake Tahoe within Lake Tahoe Nevada State Park and within the Lake Tahoe Basin. The dam is part of the Marlette Water System, which provides drinking water to Carson City, Storey County, and Lyon County, Nevada. The dam is part of a historic water system originally constructed in 1873. The dam is in an area of high seismic hazard (see **Figure 1**) and is classified as a "High Hazard Dam" in the National Inventory of Dams maintained by the U.S. Army Corps of Engineers. Annual inspections of the dam indicate a high probability of a dam breach due to an earthquake of 6.5 magnitude or larger and seepage at the downstream toe of the dam along the primary outlets also increases the risk of dam failure. A dam breach would cause substantial damage to the dam itself and existing structures and improvements downstream, including Nevada State Route 28 and a sewage effluent pipeline that runs under the road. A dam breach could jeopardize health and human safety to people downstream, while also negatively impacting the ecology and water quality of Lake Tahoe. The State Public Works Division is proposing to stabilize the Marlette Lake Dam to reduce hazards from seismic events by enlarging the downstream embankment with fill, replacing the existing outlet works, and rebuilding the spillway to address potential freeboard deficiencies.

What is the Environmental Planning and Historic Preservation Review?

FEMA is required by law to ensure that all projects that they fund comply with environmental and historic preservation laws, regulations, and Executive Orders. During the review process, FEMA evaluates the potential impacts of the project on the human and natural environment. FEMA may prepare an Environmental Assessment (EA) that describes environmental impacts of project alternatives and assesses whether the project requires further in-depth analysis. An EA would describe the existing environment, explain the environmental effects of the project

and alternative actions, and identify mitigation measures to avoid significant impacts on the human or natural environment. The environmental review process may find that the project does not significantly impact the environment, or that it may require more detailed analysis through preparation of an Environmental Impact Statement. The environmental document would be prepared per DHS Instruction 023-01 and FEMA Instruction 108-01-1.

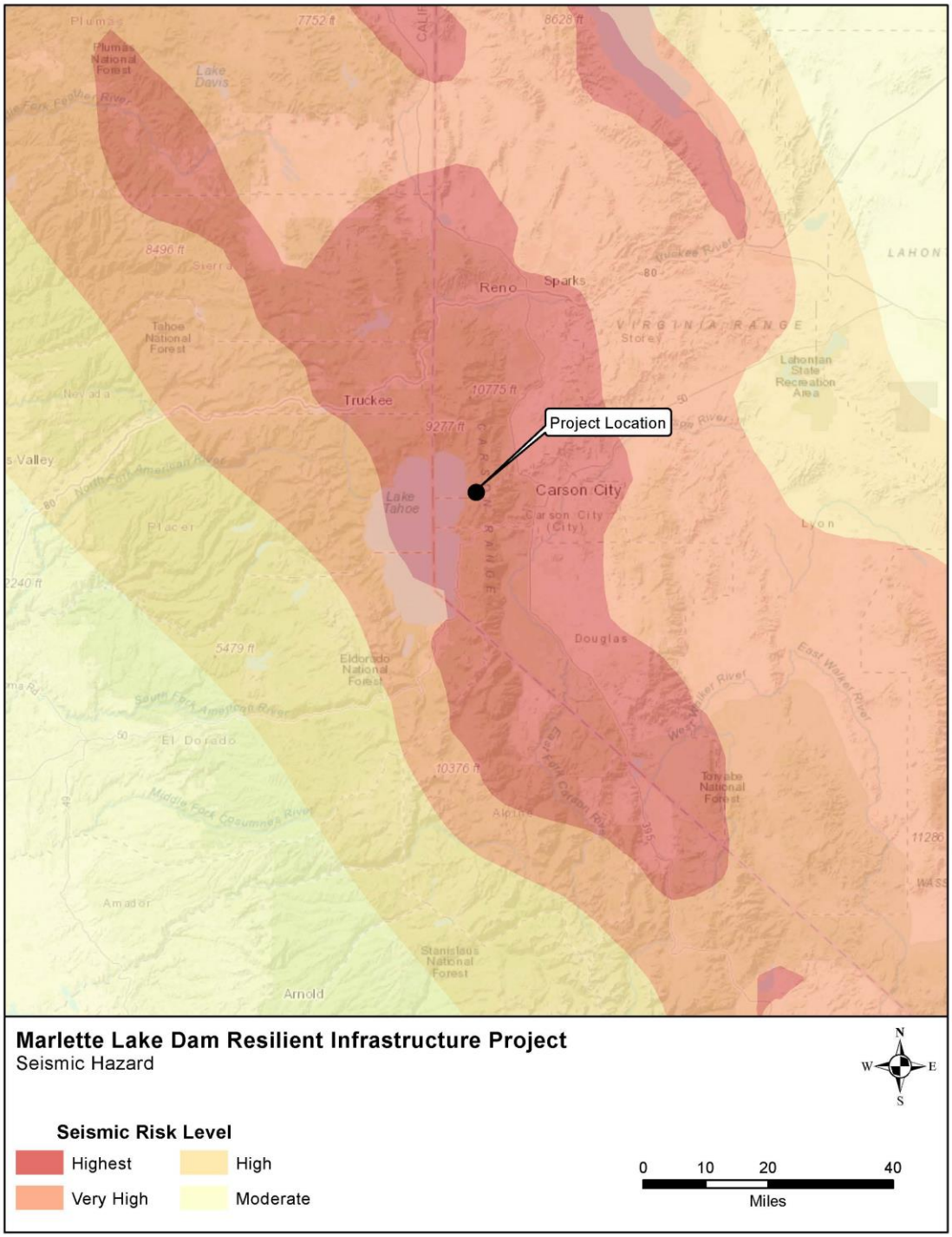

Figure 1: Seismic Hazard Map

Alternatives Considered

Under the National Environmental Policy Act (NEPA), FEMA must evaluate a range of reasonable alternatives that address the purpose and need for the project. The no action alternative is included as a comparison with the proposed action.

Proposed Action

The State Public Works Division proposes to stabilize the Marlette Lake Dam to reduce impacts from seismic events. The project would include enlarging the downstream embankment with imported materials for lateral support, along with a two-stage toe drain, extending the toe of the dam an additional 48 feet. The proposed dam crest height would remain the same. The existing concrete spillway would be removed and replaced with a new concrete box culvert and spillway.

The existing primary outlet piping within the dam (which is currently corroding) would be replaced with new outlet pipe via open cut excavation. Marlette Creek would be re-graded at the outlet and a riprap stilling basin constructed. The work of replacing the outlet pipe would require dewatering of Marlette Lake to approximately 26 feet below the spillway crest. The lake would be lowered using the existing primary outlet, with a proposed maximum release of 25 cubic feet per second (cfs) discharge to protect habitats downstream in Marlette Creek.

A section of the existing access road northeast of the dam site, the Tahoe Flume Trail, would be re-graded and raised to accommodate a temporary truck turnaround. Construction equipment would access the dam using North Canyon Road, which runs south to north from Spooner Lake off Nevada State Route 28 near the intersection of US 50 (Lincoln Highway). Use of North Canyon Road for access would require some trimming of vegetation, temporary stabilization, and improvement of several pullouts. During project construction, North Canyon Road would be temporarily closed to the public for safety considerations. Following construction, the road would be restored to pre-project conditions, including the repair of any damaged culvert crossings.

The State Public Works Division assumes that major project construction would extend from Spring 2023 through Fall 2024, with the site stabilized during the winter.

No Action Alternative

Under the no action alternative, there would be no improvements made to Marlette Lake Dam. The probability of dam failure in the event of an earthquake would not be reduced, and the potential for flooding and debris may close or washout Nevada State Route 28 and may break the sewage effluent pipeline, resulting in it flowing into Lake Tahoe. Sediment and debris would ultimately make their way into the lake, significantly degrading water quality.

Potential Issues and Impacts

- Work to improve and stabilize the access road from Spooner Lake to Marlette Lake may impact cultural resources.
- The access road may need to be closed during construction to recreational users because of safety concerns.
- Marlette Lake would need to be drawn down to allow work on the dam to occur, which could impact fish in the lake.
- Nearby recreational areas may experience temporary disturbance from noise and dust from construction.

Opportunities for Public Comment

The public will have two opportunities to provide comments on the project. The first occurs during this scoping phase where the public is invited to comment on the scope of the EA, the proposed action, potential alternatives, and key issues to consider in the EA. After publication of the draft EA, there will be a 30-day comment period. The public will be invited to provide input on the information and analyses in the draft EA.

For more information contact:

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