

**MEPA ENVIRONMENTAL ASSESSMENT SUMMARY FORM**

Project Name: Fred Burr Reservoir Dam Spillway Wall Stabilization Project

Proposed Implementation Date: September 2019

Proponent: DNRC – State Water Projects Bureau

Type and Purpose of Action: Approximately 70 feet of the lower left spillway wall is continuing to tilt. Deformation was first noticed in 1996 at ½” and was measured in May 2019 at almost 4 inches. The specific cause of deformation is unknown but freeze/thaw jacking seems the most plausible. Weep holes were drilled in 2017 to increase drainage behind the wall, but the wall has continued tilting by 0.7 inches. DNRC State Projects is concerned that further deflection may compromise safe spillway operation during the 2020 spring runoff and would like to stabilize the wall in Fall 2019 by excavating behind the wall, pouring a new concrete heel, installing a gravel filter drain, and backfilling to existing grade.

Location: T7N, R22W; Section 14

County: Ravalli

**I. PROJECT DEVELOPMENT**

RESOURCE	POTENTIAL IMPACTS AND MITIGATION
<p>1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:</p> <p>Provide a brief summary of the scoping and ongoing involvement for this project.</p>	<p>Inspections by SWPB indicated the structure needed significant repair. Groups involved and/or contacted include:</p> <ul style="list-style-type: none"> <li>• Fred Burr Water Users Association</li> <li>• US Forest Service</li> <li>• DNRC Dam Safety</li> </ul>
<p>2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:</p>	<p>The project is located on US Forest Service land. The DNRC SWPB possesses a special use permit to operate the dam. A construction permit application was submitted to DNRC Dam Safety.</p> <p>Work will be completed within the dam’s footprint and will not impact the waterway. No permits are required from MT DEQ or MT DFWP.</p>
<p>3. ALTERNATIVES CONSIDERED:</p>	<p>Action Alternative: Proceed with wall stabilization.</p> <p>No Action Alternative: Do not proceed with wall stabilization. The leaning section of the spillway wall could fail during spring runoff. Access to the dam is limited during the spring, and efforts to fix an actively failing spillway may be inadequate.</p>

## II. IMPACTS ON THE PHYSICAL ENVIRONMENT

### 4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Are fragile, compatible or unstable soils present?

Are there unusual geologic features?

Are there special reclamation considerations?

The dam is in the Bitterroot Mountains. Local soils are derived from surrounding granite bedrock of the Idaho batholith. These soils are not fragile or unstable. There are no unusual geologic features or any special reclamation considerations.

Action Alternative: The wall stabilization will involve excavation and backfilling to existing grade. The project will not impact soils outside of the dam footprint. Only minor on-site soil disturbance is anticipated. Disturbed areas will be seeded with a native grass mix. No significant or adverse impacts are expected.

No Action Alternative: No action will have a negative impact. If the spillway wall continues to lean, the dam toe could slump, potentially discharging sediment into the creek. Severe erosion would result from the spillway wall failing and causing a dam breach.

### 5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Are important surface or groundwater resources present?

Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?

Fred Burr creek is an important surface water resource and a source of groundwater recharge for the Bitterroot valley aquifer. However, the proposed construction project will not impact these surface or groundwater resources. Construction will have no effect on water quality standards in the area. Construction will take place in late fall when the reservoir is nearly empty and creek flows will not be impacted.

Action Alternative: Spillway wall stabilization will have no impact on drinking or ambient water quality in the area.

No Action Alternative: No action may adversely impact water quality or quantity. If the spillway wall fails, sediment would likely be discharged to Fred Burr creek increasing the turbidity. The delivery of irrigation water would be negatively affected if the dam fails, or if storage limitations are enacted because of an unsafe spillway.

<p>6. AIR QUALITY:</p> <p>Will pollutants or particulate be produced?</p> <p>Is the project influenced by air quality regulations or zones (Class I air shed)?</p>	<p>Action Alternative: Any impacts would be related to emissions from construction equipment and would be non-significant, minor, short-term, temporary, and end with the completion of the project. The project area is not influenced by any special air quality regulations.</p> <p>No Action Alternative: Under the No Action alternative there will be no impacts to air quality.</p>
<p>7. VEGETATION COVER, QUANTITY AND QUALITY:</p> <p>Will vegetative communities be permanently altered?</p>	<p>The current vegetative community on the dam embankment consists of common native grasses and forbs.</p> <p>Action Alternative: Work will be confined to the embankment area of the dam. Any adverse impacts are non-significant, very small and localized. Disturbed areas will be reclaimed and seeded with a native grass mix. The vegetative community should see very little alteration after reclamation.</p> <p>No Action Alternative: The No Action alternative will not impact plant communities.</p>
<p>8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:</p> <p>Is there substantial use of the area by important wildlife, birds or fish?</p>	<p>The area surrounding the dam contains habitat for common wildlife and aquatic species. However, construction will be confined to the dam embankment which is not considered wildlife habitat.</p> <p>Action Alternative: Construction on the dam embankment is not anticipated to impact habitat quality in the surrounding area of the dam. Construction noise impacts are minor, short-term and non-significant. Construction should not last longer than 14 days.</p> <p>No Action Alternative: Under the No Action alternative there will be no impacts.</p>

<p>9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:</p> <p>Are any federally listed threatened or endangered species or identified habitat present?</p> <p>Any wetlands?</p> <p>Any sensitive species or Species of Special Concern?</p>	<p>The area surrounding the project is listed as habitat for the following State Species of Special Concern: Fauna: Grizzly Bear, Wolverine, Fisher, Veery, Brown Creeper, Bobolink, Pileated Woodpecker, Peregrine Falcon, Cassin's Finch, Varied Thrush, Lewis's Woodpecker, Clark's Nutcracker, Black-backed Woodpecker, Northern Alligator Lizard, Western Skink, Westslope Cutthroat Trout, Bull Trout, and Marbled Jumping-slug. The Grizzly Bear and Bull Trout are also federally listed under the Endangered Species Act (ESA). Flora State Species of Special Concern: Whitebark Pine, Crosby's Buckwheat, Yellow Beardtongue, Cup Clover.</p> <p>Action Alternative: Spillway wall stabilization will have no impact on unique, endangered, fragile or limited environmental resources.</p> <p>No Action Alternative: Under the No Action alternative there will be no impacts.</p>
<p>10. HISTORICAL / ARCHAEOLOGICAL :</p> <p>Are any historical, archaeological or paleontological resources present?</p>	<p>Action Alternative: The immediate area of impact contains no known historical, archaeological or paleontological resources. The DNRC Archaeologist was consulted and stated this area is well documented. Any new historical, archaeological, or paleontological resources uncovered during construction would be reported to the DNRC Archaeologist and the SHPO.</p> <p>No Action Alternative: The No Action alternative will not impact historical, archaeological, or paleontological resources.</p>
<p>11. AESTHETICS:</p> <p>Is the project on a prominent topographic feature?</p> <p>Will it be visible from populated or scenic areas?</p> <p>Will there be excessive noise or light?</p>	<p>The project is on USFS land in the Bitterroot Mountains. The site is only accessible to the public by trail.</p> <p>Action Alternative: Any increase in noise associated with the construction would be non-significant, temporary, and will end with completion of the project. The spillway wall stabilization will have no impact on the aesthetics of the area. The disturbed area on the embankment will be seeded with a native grass mix so the post-construction site will look the same as pre-construction.</p> <p>No Action Alternative: Under this alternative there will be no impacts to aesthetics.</p>

<p>12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:</p> <p>Will the project use resources that are limited in the area?</p> <p>Are there other activities nearby that will affect the project?</p>	<p>Action Alternative: The spillway wall stabilization will not change the existing demand/use of water in the area. No other nearby activities would affect the project.</p> <p>No Action Alternative: The No Action alternative would not cause new demands on environmental resources of land, water, air or energy.</p>
<p>13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:</p> <p>Are there other studies, plans or projects on this site?</p>	<p>Action Alternative: This project will not impact any other plans or studies.</p> <p>No Action Alternative: The No Action alternative will not impact any studies, plans, or projects at the site.</p>

### III. IMPACTS ON THE HUMAN POPULATION

<p>14. HUMAN HEALTH AND SAFETY:</p> <p>Will this project add to health and safety risks in the area?</p>	<p>Action Alternative: The project goal is to stabilize the spillway wall to ensure safe operation of the dam. Stabilizing the wall will decrease downstream health and safety risks due to a potential spillway wall failure.</p> <p>No Action Alternative: The No Action alternative may increase human health or safety risks due to a potential failure of the spillway wall.</p>
<p>15. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:</p> <p>Will the project add to or alter these activities?</p>	<p>Fred Burr reservoir stores water for agricultural use.</p> <p>Action Alternative: The project will have positive impacts on agriculture by allowing the continued use of the dam and spillway.</p> <p>No Action Alternative: The No Action alternative may cause negative impacts to agricultural activities due to the risk of wall failure. Water storage in the reservoir would be reduced to prevent the spillway from flowing, meaning less water would be available for the water users.</p>

<p>16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:</p> <p>Will the project create, move or eliminate jobs? If so, estimated number.</p>	<p>Action Alternative: Other than the employment related to construction, the project will not create any jobs in the area. The spillway wall stabilization will enable continued use of the reservoir for the water users.</p> <p>No Action Alternative: The No Action alternative would cause no positive impacts to quantity and distribution of employment. Loss of storage in the reservoir may jeopardize some of the agricultural operations.</p>
<p>17. LOCAL AND STATE TAX BASE AND TAX REVENUES:</p> <p>Will the project create or eliminate tax revenue?</p>	<p>Action Alternative: The project will not impact the local and state tax base or tax revenues.</p> <p>No Action Alternative: The No Action alternative will not impact the local and state tax base.</p>
<p>18. DEMAND FOR GOVERNMENT SERVICES:</p> <p>Will substantial traffic be added to existing roads?</p> <p>Will other services (fire protection, police, schools, etc.) be needed?</p>	<p>Action Alternative: The project will not increase traffic nor add to demand for government services.</p> <p>No Action Alternative: The No Action alternative will not cause additional demand for government services.</p>
<p>19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:</p> <p>Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?</p>	<p>The dam is operated under a USFS special use permit.</p> <p>Action Alternative: The project will not impact locally adopted environmental plans, goals, zoning or management plans. The USFS has been consulted and will allow the construction project under the special use permit.</p> <p>No Action Alternative: The No Action alternative will not impact locally adopted environmental plans and goals.</p>
<p>20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:</p> <p>Is wilderness or recreational areas nearby or accessed through the project location?</p> <p>Is there recreational potential within the project location?</p>	<p>The dam is located on USFS property where the public has non-motorized access.</p> <p>Action Alternative: The spillway wall stabilization will not impact any recreation resources because construction will be confined to the dam footprint. Trail access may be temporarily closed to allow mobilization of construction equipment.</p> <p>No Action Alternative: The No Action alternative will not impact recreational resources.</p>

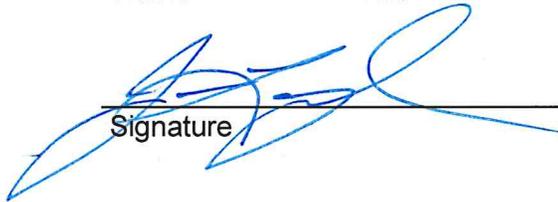
<p><b>21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:</b></p> <p>Will the project add to the population and require additional housing?</p>	<p>Action Alternative: The project will not impact the density and distribution of population and housing.</p> <p>No Action Alternative: The No Action alternative will not impact the density and distribution of population and housing.</p>
<p><b>22. SOCIAL STRUCTURES AND MORES:</b></p> <p>Is some disruption of native or traditional lifestyles or communities possible?</p>	<p>Action Alternative: The project will not disrupt any traditional lifestyles or communities.</p> <p>No Action Alternative: The No Action alternative will not impact social structures.</p>
<p><b>23. CULTURAL UNIQUENESS AND DIVERSITY:</b></p> <p>Will the action cause a shift in some unique quality of the area?</p>	<p>Action Alternative: The project will not impact the cultural uniqueness and diversity of this area.</p> <p>No Action Alternative: The No Action alternative will not impact cultural uniqueness and diversity.</p>
<p><b>24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:</b></p>	<p>Action Alternative: The spillway wall stabilization would maintain the delivery of irrigation water, thereby helping to sustain the local agricultural economy.</p> <p>No Action Alternative: The No Action alternative could negatively impact local agricultural economics if the reservoir storage is reduced to accommodate an unsafe spillway wall.</p>

IV. FINDING

25. ALTERNATIVE SELECTED:	Action alternative.
26. SIGNIFICANCE OF POTENTIAL IMPACTS:	No significant impacts anticipated.
27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS: <input type="checkbox"/> EIS <input type="checkbox"/> More Detailed EA <input checked="" type="checkbox"/> No Further Analysis	

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Name Title

EA Approved By: Jan Langel DNRC Water Resources Division Administrator  
Name Title

  
Signature

Date: 9/4/19

Attachments: No attachments are included.

Additional Information:

This EA will be published for 30 days on the DNRC website at:

<http://dnrc.mt.gov/public-interest/environmental-docs>

Questions and comments should be directed to:

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