

MEPA ENVIRONMENTAL ASSESSMENT SUMMARY FORM

Project Name: Nilan Dam Guard Gate Repairs

Proposed Implementation Date: October 2020

Proponent: DNRC – State Water Projects Bureau

Type and Purpose of Action: The guard gate stem at the Nilan North dam is bent and inoperable, and therefore needs to be replaced. Water is released from the dam via two control gates; a guard gate and an operating gate. The guard gate is upstream of the operating gate and is normally open to allow the operating gate to regulate flow from the reservoir. The guard gate is typically only closed to allow inspection of the outlet conduit and the operating gate. Should the operating gate malfunction, the guard gate could temporarily control flow. The stem moves the gate up and down into open and closed positions. The bent stem prevents the guard gate from opening and closing properly. The proposed project is to replace the bent guard gate stem and associated hardware (brackets, stem guides, etc.) that attach the stem to the tower wall and the gate. Stem guides on the Nilan East dam will also be replaced as preventative maintenance.

Location: T20N, R7W; Section 17 & 18

County: Lewis and Clark

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 indicate the structure requires significant repair. The reservoir will be drawn down to allow work in the gate tower. Groups/agencies involved and/or contacted include:</p> <p>Nilan Water Users Association MT Fish, Wildlife and Parks Land owner of the project access road</p> <p>The project will begin in October to allow Water Users to complete irrigation. MT DFWP will adjust their stocking program accordingly in response to the low reservoir level in Fall 2020.</p>
<p>2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:</p>	<p>The reservoir is offstream and located on DNRC property. MT DFWP manages the reservoir's fishery.</p> <p>MT DFWP was consulted and a 318 authorization was issued to allow any potential short-term turbidity associated with construction.</p> <p>The US Army Corps of Engineers was consulted regarding a 404 permit. The project meets exemption criteria for maintenance of dams and discharges related to irrigation ditches. Therefore, no 404 permit is necessary.</p>

<p>3. ALTERNATIVES CONSIDERED:</p>	<p>Action Alternative: Proceed with gate stem repair.</p> <p>No Action Alternative: Do not proceed with gate stem repair. The guard gate allows inspection of the outlet conduit and the operating gate. Annual inspection of these features is an industry-standard practice for maintaining a safe dam. Also, the guard gate is a back-up control for irrigation releases if the operating gate malfunctions. Therefore, the No Action Alternative is not preferable.</p>
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II. IMPACTS ON THE PHYSICAL ENVIRONMENT

<p>4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:</p> <p>Are fragile, compatible or unstable soils present?</p> <p>Are there unusual geologic features?</p> <p>Are there special reclamation considerations?</p>	<p>The dam is in the knob and kettle terrain of Pleistocene glaciation. These soils are not fragile or unstable. There are no unusual geologic features or any special reclamation considerations.</p> <p>Action Alternative: Work will be within the gate tower and soils will not be affected. No significant or adverse impacts are expected.</p> <p>No Action Alternative: No action may lead to a negative impact. Should the operating gate fail in the open position while the guard gate is inoperable, uncontrolled flows could be discharged into the irrigation canal causing soil damage.</p>
<p>5. WATER QUALITY, QUANTITY AND DISTRIBUTION:</p> <p>Are important surface or groundwater resources present?</p> <p>Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?</p>	<p>Nilan Reservoir stores irrigation water for distribution through the North Dam into the Willow Creek drainage, and through the East Dam into the Elk Creek drainage. Water will be prevented from flowing through the work area by using small sandbag coffer dams. Construction will have no effect on water quality standards in the area.</p> <p>Action Alternative: Repair of the bent gate stem will have no impact on drinking or ambient water quality in the area. Nilan Reservoir stores irrigation water and is not a source of potable water.</p> <p>No Action Alternative: No action may impact water quality or quantity. If the operating gate malfunctions, the failed guard gate will not prevent uncontrolled releases into the canal. Excessive canal flow may cause erosive damage and sediment transport. Delivery of irrigation water may be curtailed to prevent canal damage and/or allow an unplanned rehabilitation.</p>

<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: The No Action alternative will cause 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 around the dam consists of common native grasses, forbs, woody shrubs and a mix of coniferous and deciduous trees.</p> <p>Action Alternative: Work will be confined to the interior of the gate tower. Any adverse vegetation impacts are non-significant, very small and localized on the dam embankment. The vegetative community should see very little alteration.</p> <p>No Action Alternative: The No Action alternative will not impact plant communities.</p>

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Is there substantial use of the area by important wildlife, birds or fish?

The area surrounding the dam contains habitat for common wildlife and aquatic species. Construction will be confined to the gate tower interior, but the reservoir will be lowered to approximate elevation 4398' (NGVD 1929) to allow dry working conditions in the tower. At this elevation the historic "Beale Lake" pool will be present at approximately 50 surface acres and 20 feet maximum depth.

Action Alternative: Construction inside the gate tower 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.

Drawdown of the reservoir will confine aquatic species to existing low-pool wetlands and the historic "Beale Lake" pool. Low-pool wetlands on the SW reservoir edge will not be adversely impacted by the reservoir drawdown. These wetlands experience annual cycles of low reservoir levels from release of irrigation storage. The "Beale Lake" pool is likely to provide adequate over-wintering habitat for aquatic species to survive. Reservoir levels will likely increase following construction and before winter freeze-over to provide more reservoir volume for over-wintering fish habitat. MT DFWP was notified of the low reservoir pool scheduled for Fall 2020 and adjusted their spring 2020 stocking program accordingly.

No Action Alternative: The No Action alternative may cause more disruptive impacts to aquatic life if the operating gate malfunctions while the guard gate is inoperable. Uncontrolled releases could lower reservoir levels for an extended period of time in an unplanned condition.

<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 project is in an area listed as habitat for the following State Species of Special Concern: Fauna: Grizzly Bear, Sprague's Pipit, Golden Eagle, Ferruginous Hawk, Chestnut-collared Longspur, Baird's Sparrow, Bobolink, Common Loon, Long-billed Curlew, McCown's Longspur, Brewer's Sparrow, Greater Short-horned Lizard.</p> <p>Flora State Species of Special Concern: Great Basin Downingia, Wood Lily.</p> <p>Wetland habitat surrounds the full-pool reservoir, but will not be impacted by construction or reservoir drawdown. The reservoir is drawn down annually to deliver irrigation water.</p> <p>Action Alternative: The gate stem repairs will have no impact on unique, endangered, fragile or limited environmental resources.</p> <p>No Action Alternative: No impacts will occur under the No Action alternative.</p>
<p>10. HISTORICAL / ARCHAEOLOGICAL:</p> <p>Are any historical, archaeological or paleontological resources present?</p>	<p>Nilan Reservoir is a Historic Cultural Resource Site (24LC1818).</p> <p>Action Alternative: Replacing gate stem hardware is necessary and routine maintenance and will not adversely affect any qualities of the reservoir which make it a Heritage Property. Any new historical/archaeological/paleontological resources uncovered during construction will be reported to the DNRC Archeologist and the SHPO.</p> <p>No Action Alternative: The No Action alternative may degrade function of the dam's gates and thereby impact the quality of the Heritage Property.</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 adjacent to a public road (Benchmark Road) and access to the North Dam is located on private land. The site is visible from the county road.</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 gate stem repair will have no impact on the aesthetics of the area.</p> <p>No Action Alternative: The No Action alternative will have no impacts to aesthetics.</p>

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Will the project use resources that are limited in the area?

Are there other activities nearby that will affect the project?

The primary use of Nilan Reservoir is to deliver agricultural irrigation. Recreation and fishing are secondary uses incidental to irrigation storage. Normal operation of the reservoir yields lower pool levels in the late fall due to irrigation distribution. Annual low-pool levels vary due to irrigation demand, hydrologic supply, and dam repair requirements. The minimum winter pool level during normal operations is 4409' (NGVD 1929) to protect the intake structures from ice damage. The proposed action will lower the reservoir level to 4398' (NGVD 1929); eleven feet below the minimum pool level.

Action Alternative: The gate stem repair will not change the existing demand/use of water. Lowering of the reservoir and construction will occur after the irrigation season. Secondary uses (recreation and fishing) may experience short-term impact from the lowering of the reservoir. However, action is necessary to maintain safe operation of the dam and to continue providing these secondary uses into the future. No other nearby activities will affect the project.

No Action Alternative: The No Action alternative would not cause new demands on environmental resources of land, water, air or energy. However, No Action could jeopardize reliable water for irrigation and secondary uses by not providing operable outlet gates.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

Are there other studies, plans or projects on this site?

Action Alternative: This project will not impact any other plans or studies.

No Action Alternative: The No Action alternative will not impact any studies, plans, or projects at the site.

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 repair the gate stem to ensure safe operation of the dam. The project will decrease downstream health and safety risks due to a potential malfunction in the guard or operating gates.</p> <p>No Action Alternative: The No Action alternative may increase human health or safety risks due to a potential malfunction in the operating gate while the guard gate is inoperable.</p>
<p>15. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:</p> <p>Will the project add to or alter these activities?</p>	<p>Nilan 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.</p> <p>No Action Alternative: The No Action alternative may cause negative impacts to agricultural activities due to the risk of gate malfunction. Water storage in the reservoir would be reduced to prevent uncontrolled releases into the canal, 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 gate stem repair will allow 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>Action Alternative: The project will not impact locally adopted environmental plans, goals, zoning or management plans.</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>Fishing is the main recreation provided by the reservoir. The reservoir level will be drawn down to provide dry working conditions in the work area.</p> <p>Action Alternative: The gate stem repair may temporarily impact fishing quality while the reservoir is low during Fall 2020. DFWP has been consulted and is adjusting their management plan accordingly. Fish are expected to seek refuge in the 50-acre "Beale Lake" pool. The reservoir level will be increased immediately following construction if water is available. Reservoir levels will return to a normal operating range in 2021 and the fishery is not expected to be impacted beyond Fall 2020.</p> <p>No Action Alternative: The No Action alternative may adversely impact recreational resources because the broken guard gate stem will not provide reliable safe operation of outflows if the operating gate malfunctions, thus potentially causing the uncontrolled loss of stored water. This type of unplanned disruption to recreational activities is likely to be a much greater impact than that of the planned maintenance.</p>
<p>21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:</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>22. SOCIAL STRUCTURES AND MORES:</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>23. CULTURAL UNIQUENESS AND DIVERSITY: 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>24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:</p>	<p>Action Alternative: The gate stem repair will 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 malfunctioning gates.</p>

