

# **Finding of No Significant Impact**

## **Final Environmental Assessment**

### **New York Canal Lining Project**

#### **Ada County, Idaho**

#### **U.S. Department of the Interior**

#### **Bureau of Reclamation**

#### **Columbia-Pacific Northwest Region**

#### **Snake River Area Office**

#### **CPN FONSI # 24-01**

## **Introduction**

The Bureau of Reclamation (Reclamation) has prepared this Finding of No Significant Impact (FONSI) to comply with the Council on Environmental Quality regulations for implementing procedural provisions of the National Environmental Policy Act. This document briefly describes the Proposed Action, other alternatives considered, the scoping process, Reclamation's consultation and coordination activities, and Reclamation's finding. The Final Environmental Assessment (EA) fully documents the analyses of the potential environmental effects of implementing the changes proposed (the EA also includes bibliographic information for reference documents cited in this FONSI).

## **Location and Background**

The New York Canal (canal) is 41 miles long and conveys water from the Boise River westward toward Lake Lowell in Nampa, Idaho. The canal provides irrigation water to about 165,000 acres in the Boise Valley. Construction of the canal began in the late 1800s and was enlarged between 1909 and 1912 by Reclamation. Pursuant to contracts executed in 1926, Reclamation transferred operation, care, and maintenance of the canal to the five irrigation districts receiving water from it, with the Boise Project Board of Control (BPBOC) established as the districts' operating agent. Facilities managed under this type of arrangement are commonly referred to as "transferred works." The canal's current operating capacity is approximately 2,450 cubic feet per second (cfs). The United States owns the New York Canal and holds legal title to the project water rights used to divert water into the canal.

As the operating agent for five irrigation districts (Boise-Kuna Irrigation District, Big Bend Irrigation District, Nampa and Meridian Irrigation District, New York Irrigation District, and Wilder Irrigation District), the BPBOC's purpose is to manage the irrigation facilities and other works

transferred by Reclamation to these five irrigation districts and to deliver water to their landowners. BPBOC has a robust maintenance program and has lined and relined several short canal segments as part of their typical and normal maintenance activities. The relined canal sections have usually been between 300 and 600 feet in length and the work was funded by grants that could fund only the construction of short segments. The proposed 6-mile canal lining would allow BPBOC to maintain and improve a significant portion of canal's structural integrity.

Canal safety and reliability are of utmost importance when considering operation and maintenance activities and become even more important in urbanized areas. Urbanization in the areas adjacent to the canal has increased rapidly, with Boise's annual growth rate of 1.26 percent and a growth of 2.55 percent since the last census making it the 15th fastest growing city in the United States (World Population Review 2023). The risk to populated areas from a canal failure event is increasing due to increasing urbanization. Reclamation Manual Directives and Standards (D&S) FAC 01-12 Canal Hazard Program (CHP) identifies requirements and procedures to inventory and inspect canal reaches in urban areas. The CHP is intended to identify potential risks through inspections and to minimize the risk to public safety, welfare, and property damage through recommendations. The 6-mile canal segment has been identified as "at-risk" by CHP due to its proximity to populated areas and other risks associated with canal integrity. The proposed canal lining would provide an increase in safety for the surrounding public and increased conveyance reliability.

## **Purpose and Need**

Reclamation proposes to provide funding through the WaterSMART (Sustaining and Managing America's Resources for Tomorrow) Water and Energy Efficiency Grant (WEEG) and an extraordinary maintenance loan under Public Law 111-11 from Reclamation's Aging Infrastructure Account, funded by the Bipartisan Infrastructure Law, for BPBOC to install a canal lining system composed of a multi-layer geosynthetic membrane covered by reinforced concrete. The purpose of and benefits from the proposed project involve:

- Conserving water supplies
- Enhancing dependability of water delivery to all patrons, including urban water users, thus reducing the need to rely on more expensive treated water
- Safeguarding property and people by decreasing the risk of seepage and embankment failure
- Preserving the estimated \$600 million per year agricultural benefit and the related employment and other secondary benefits by reducing the risk of interruption of deliveries

The proposed project is needed because the New York Canal is a critical piece of infrastructure in the Treasure Valley. It currently experiences irrigation water loss through seepage. This seepage loss is a significant inefficiency in the irrigation system. A 1997 United States Geological Survey (USGS) study (Berenbrock 1999) estimated that seepage loss from the canal (including both lined and unlined portions) have been up to 8.9 cfs per mile, or approximately 34,800 acre-feet per year.

Seepage loss estimates from Reclamation for 2022 and 2023 are 29,270 and 41,980 acre-feet per year, respectively.

This 6-mile section in the upper region of the 41-mile canal's total length is prioritized for lining due to its tall and narrow embankment. The canal is in good overall condition, but a canal breach at any point within this 6-mile section would result in the greatest flood damage to adjacent landowners and be the hardest to repair in a rapid manner.

It is also important to note that Idaho law allows a canal owner to line its canal to reduce or eliminate waste or seepage. Relining the canal in these areas to include a more substantial lining system would significantly reduce both public safety risk and seepage.

## **Alternatives Considered**

The range of alternatives developed for analysis of this Proposed Action was based on the purpose and need for the project, and on the issues raised during internal, external, and Tribal scoping. The alternatives analyzed include a No Action alternative (Alternative A) and the Proposed Action (Alternative B). The No Action alternative does not meet the defined purpose and need for action but was evaluated because it provides an appropriate baseline for comparison.

## **Summary of Environmental Effects**

The following discussions summarize the effects that the preferred alternative – the Proposed Action (Alternative B) – would have on each resource category analyzed in the EA. Chapter 3 of the EA provides a full analysis and explanation of how each resource was evaluated.

### **Hydrology and Geomorphology**

Lining the 6-mile section of the canal would reduce seepage-related losses from the canal, requiring less water to be diverted to deliver the same amount downstream. The effects of saving water by reducing seepage may depend on what is done with the water that is saved; the water that used to be lost to seepage could be saved (Malek et al. 2021; Meeks 2021). Regardless of what is done with the saved water, reducing canal seepage would likely reduce net return flows to the Boise River, via surface groundwater flow paths, and potentially alter river gains and losses. These changes could reduce the amount of flow in the Boise River and potentially affect releases to maintain flow targets and water availability for downstream water users (e.g., Reclamation and IDWR 2008).

Reductions in seepage would also reduce groundwater recharge, potentially leading to reductions in the water table. Groundwater modeling based on seepage measurements for the 6-mile section (see Appendix A in the EA) suggests that the largest reductions would likely occur beneath and along the newly lined section and diminish with distance (see Figure 5 in the EA).

A total of 1,506 wells are within the area that the modeling suggests could be affected by 5 or more feet of groundwater reduction (see Table 1 in the EA), although the extent and magnitude of groundwater reductions is inherently uncertain. This total includes all types of wells, including wells

that would be unlikely to be affected (e.g., deeper cased wells, injection wells, monitoring wells, etc.), and many wells for which no well type information was available. Additional study would be needed to better constrain the number of wells affected and the nature of these effects (e.g., increased pumping costs or drying up wells), but such analysis would be complicated by uncertainties related to the accuracy of well locations, incomplete well information (e.g., missing well type/depth information), whether wells are still used and operational, and the accuracy of modeled extents and magnitudes of groundwater effects. However, no amount of additional study would be able to fully quantify effects, nor would actual effects be fully quantifiable after the canal were relined.

Actual groundwater reductions would likely vary locally depending on: interactions with other water recharge sources (e.g., other canals, drains, streams, and ponds) and sinks (e.g., wells and seeps); aquifer heterogeneity (i.e., varying aquifer composition from clay, sand, gravels, and different lava flow types); and regional groundwater trends (Hutchings and Petrich 2002). Other sources of recharge, such as other nearby canals and the Boise River, may buffer potential groundwater effects. For example, the groundwater modeling suggests that seepage from the canal to the north acts as a source of recharge that may limit and/or reduce modeled groundwater lowering from lining the New York Canal. This causes potential reductions in the water table to diminish more rapidly to the north. Seepage from the nearby canal might also increase due to steeper hydraulic gradients related to lower adjacent groundwater levels. Nearby canals and other sources of surface recharge may set a vertical bound for potential water table lowering, in that the New York Canal is about 50 feet higher than the adjacent land surface to the north. If nearby canals continue to act as sources of recharge, the groundwater modeling suggests that water table reductions would be unlikely to exceed about 50 feet. However, it should be noted that the owners of other canals retain the right to line or pipe canals to recapture and use water lost through seepage, following Idaho water law. In contrast, the modeling shows a greater extent of potential water table lowering to the south, where there are no other canals, little on-farm irrigation, and little natural groundwater recharge; water table reductions diminish more slowly with distance.

The Proposed Action is intended to improve public safety, with the primary purpose of the proposed canal lining/relining to improve structural integrity, thereby reducing the risk of a canal breach in an urbanized area. Unfortunately, as noted above, this would also likely affect groundwater resources. Section 8 of the Reclamation Act requires Reclamation to follow state law in the appropriation, use, and distribution of irrigation water. Under Idaho law, a canal owner can line its canal to reduce or eliminate waste or seepage (see Application of Boyer, 73 Idaho 152, 162-63, 248 P.2d 540, 546 (1952)). The legalities of canal lining to eliminate waste or seepage are further described by Idaho Supreme Court Justice Bistline in the 1980 case *Hidden Springs Trout Ranch v. Hagerman Water Users*, where he stated:

*...some loss of water through seepage or evaporation is considered a prerogative of the appropriator, so long as the loss is reasonable. The senior appropriator retains his right to all of the water, including that which is lost through reasonable seepage, and thus may reclaim it, for instance, by improving his transmission system.*

This decision ultimately means that senior water right holders can improve and line their canals and that water loss from seepage still belongs to them and not junior groundwater users. The United States owns the New York Canal and holds legal title to the Boise Project water rights used to divert water into the canal.

## **Public Safety and Property**

Funding to reline the prioritized 6-mile section of the canal would allow a longer canal segment to be relined each offseason, with an expected completion of the 6-mile section by 2032. This action would directly improve public safety in the short and long terms. Because the proposed canal lining/relining would occur faster than the timeline described for the No Action alternative (i.e., approximately 50 years to line/reline the proposed 6-mile section), Alternative B would help limit risk.

Modernizing this section of the canal by relining it with Huesker lining and reinforced concrete would reduce risks to public safety and property for many years. The longevity of the lining system could extend to 50 years, allowing the BPBOC to focus on other canal maintenance activities which would also minimize future public safety risk.

## **Groundwater Utilities**

The Proposed Action would result in a possible change in groundwater levels that would be most observable closest to the New York Canal lining project area and would decrease in severity with distance from the project area. There could be up to 300 domestic drinking water wells within this area of potential effect (APE). To derive this number of potentially-affected domestic drinking water wells, Reclamation conducted a specific process of elimination on non-domestic wells. First, Reclamation obtained all the known well permits and information from the Idaho Department of Water Resources and started to filter out all non-domestic wells (industrial, irrigation, injection, etc.). Upon removal of all non-domestic wells, the remaining locations were categorized into “zones” based on depth contours that were determined by Reclamation’s Columbia-Pacific Northwest Region Long-Term Operations and Planning modeling group (see Section 3.2 in the EA). Additionally, any wells deeper than 300 feet were removed based on the aquifer depth, known using estimates from the USGS groundwater model. The USGS identified that any well deeper than 300 feet would likely be in a stable aquifer.

This filtered list of well addresses was sent to Veolia Water Company to understand which addresses were serviced by Veolia. A list of Veolia-serviced addresses was returned and these wells were filtered out of the remaining well addresses, leaving only the wells that could be used for sole source drinking water due to no public utility connection. Finally, the zones were recategorized to show the number of wells in each contour of possible change in depth. Since there were fewer wells in each zone after the filtering, eight zones showing increments of approximately 5-foot depth changes were re-zoned and were combined to approximately 10-15-foot depth changes to display a more obvious change in color gradient as shown in Figure 8 in the EA.

Wells closer to the project area would possibly experience a larger change in groundwater level (approximately up to 45 feet), while a well further away from the project area would experience less change in groundwater level (approximately 5 feet). However, the overlap of the Veolia service area and the number of wells within the APE would allow for any individual to gain access to drinking water by connecting to the public utility (see Figure 9 in the EA).

## **Water Quality**

Canal lining construction could temporarily increase turbidity and sediment when irrigation water begins to flow in the spring. This would dissipate and eventually decrease to an equilibrium soon after the initial flows. This impact would likely occur during each lining construction for each segment; impacts would be minimized as much as possible to reduce effects on irrigation water deliveries.

After construction, water quality effects would be the same as those described for Alternative A. The lined segments of the canal would retain more irrigation water for downstream users with no appreciable effects to irrigation water quality (other than those already noted in the Alternative A effects analysis).

## **Biota – Vegetation, Wetlands, Fish, and Wildlife**

Under Alternative B, the lining of the 6-mile section would occur over approximately six winter seasons, during the timeframe when the canal is dewatered. The canal lining project, including staging areas, would not incorporate any new areas of surface disturbance outside the areas already developed as a part of the canal infrastructure; therefore, effects to vegetation would be minimal. Effects to other wildlife that utilize the canal and the adjacent access road areas for water access, foraging, and passage could include short-term impacts such as triggering avoidance behavior at the times when human activity is increased in each section of the canal. These effects would be minor, limited in duration to the winter season in which construction activities occur, and spatially limited to approximately 1 mile of canal within the context of the entire 41-mile length of the canal. Effects to wildlife would also be minimized by the fact that construction activities would occur when many avian species have seasonally migrated out of the area, and when activity by insects and their predators is greatly reduced by both the absence of water and by cold seasonal temperature regimes.

## **Cultural Resources**

Under the Proposed Action alternative, some cultural resources within, or originating in, the project area would see two direct effects, one beneficial and one adverse. The New York Canal itself, and the laterals that originate at it, would benefit from the addition of the Huesker liner in that the canal walls would have the most up-to-date engineered treatment for water retention and structural safety, ensuring continuing function and integrity. The headgates of the primary laterals that begin from the updated New York Canal would be unchanged, but their surrounds would be reinforced and updated, a benefit to that equipment. Several segments of the New York Canal that have never been lined in the past would receive Huesker lining. The canal function and structural integrity would have a beneficial direct effect in that the waterway would be uniformly upgraded and reinforced in the project area. From a cultural resource standpoint, the addition of the new material on the earthen components could be considered an adverse direct effect due to the change in original materials of the historic resource. However, the characteristics that qualify the New York Canal as eligible for listing in the National Register of Historic Places would not be affected by activities under the Proposed Action.

A possible beneficial indirect effect of the installation of the Huesker liner is a reduction in the need to perform extensive regular maintenance, thus having a lesser impact to the cultural resource over the next several decades. Less frequent and smaller interactions with the canal prism could result in less wear-and-tear of the canal prism and adjacent access roads, as well as the earthen embankments on either side, thus prolonging the condition and integrity of that historically significant space. The indirect effect of the actions involved with Alternative B, when assessed in their context and intensity, could beneficially impact the sustained good condition of the canal.

Combined impacts from the ongoing and upcoming projects in the vicinity of the New York Canal, which at this point in time have been identified as additional lining, would be the same as discussed above for direct and indirect effects to the longevity of the canal's ability to function as historically intended.

### **Greenhouse Gas Emissions**

Under Alternative B, 1 mile of the New York Canal would be lined each year. Each mile of canal lining is estimated to emit approximately 400 metric tons of carbon dioxide, or the equivalent energy use of 50 houses in 1 year. This year-long timeline for both the project and the conversion of greenhouse gas emissions works well for comparison between the action and effect. The greenhouse gases emitted as a result of this project would be considered negligible due to the localized area in which the project would occur and the short duration of the action, with October to April being the timeframe of construction for a set number of years. The population of the Boise area is 235,670 people and is growing (see Section 3.6.1 of the EA). The energy use equivalent of 50 homes per year being added to emission levels of a population this size would be inconsequential. This effect can also be shown when expanded to the energy use equivalent of 300 homes over a 6-year period.

### **Unaffected Resources**

The Proposed Action would not cause any short- or long-term direct, indirect, or cumulative effects to the following resource categories:

- Indian Sacred Sites
- Indian Trust Assets
- Treaty Rights
- Environmental Justice
- Socioeconomics
- Threatened and Endangered Species

## Consultation, Coordination, and Public Involvement

In compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended in 1992), Reclamation consulted with the Idaho State Historic Preservation Office (SHPO) to identify cultural and historic properties in the APE. Reclamation initiated consultation with the Idaho SHPO on April 6, 2023. SHPO concurrence with Reclamation's finding of Adverse Effects to Historic Properties for the action area was received on April 11, 2023. An MOA was signed by SHPO, BPBOC, and Reclamation to perform mitigation for this adverse effect.

On November 18, 2022, Reclamation mailed a scoping document, including a letter, project information, and a map, to over 55 agencies, members of Congress, organizations, and over 300 individuals, soliciting their help in identifying any issues and concerns related to the Proposed Action. Reclamation received five comments during the scoping period. On December 11, 2023, Reclamation mailed a letter to participate in a 30-day public comment period to review the Draft EA. This letter was mailed to the same list as the scoping document and six comments were received.

Reclamation hosted open houses on December 13, 2022, and January 9, 2024, to solicit comments on the Proposed Action and the Draft EA, respectively. Seven attendees were present during the 2022 open house and nine attendees were present during the 2024 open house.

Reclamation mailed scoping letters to the Shoshone-Bannock Tribes, Shoshone-Paiute Tribes, Eastern Shoshone Tribe, and the Northwestern Band of the Shoshone Nation Tribe on November 18, 2022, and December 11, 2023. No responses or concerns from the Tribes were brought forward during the scoping period. The mailing list, scoping letters, and comments received and responses are presented in Appendix C of the Final EA.

## Finding

The rationale used to make this decision includes state law, safety, and domestic water availability. Section 8 of the Reclamation Act of 1902 identifies that Reclamation will follow state water law. Idaho state water law allows a canal owner to line its canal to reduce or eliminate waste or seepage. The 6-mile New York Canal segment has been identified as "at-risk" by CHP due to its proximity to populated areas and other risks associated with canal integrity; relining/lining would substantially alleviate these risks. Additionally, the Veolia water service area overlaps the potentially affected groundwater well area and potentially affected areas have access to domestic water.



Based on the analysis of the environmental effects presented in the Final EA and consultation with potentially affected agencies, Tribes, organizations, and the general public, Reclamation concludes that implementation of the preferred alternative – the Proposed Action (Alternative B) – will not have a significant impact on the quality of the human environment or natural and cultural resources. The overall effects of the Proposed Action will be minor, temporary, and localized. Therefore, preparation of an Environmental Impact Statement is not required.

**Approved:**

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**February 15, 2024**

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