

The Communicator

Published by The Central Nebraska Public Power and Irrigation District

Elwood Dam Seepage Repair Construction Underway

An important piece to the Central Nebraska Public Power and Irrigation District’s irrigation project is getting a face lift as construction is underway on a seepage mitigation project of Elwood Dam at Elwood Reservoir.

Elwood Dam, constructed in the 1970s, consists of a main earthen embankment dam, two earthen saddle dams, a pump station, an inlet-outlet canal and a conduit that is surrounded by an earth fill embankment. Central stores irrigation water and recharge water in Elwood and water is conveyed into and out of the reservoir through the inlet-outlet conduit and the E-65 canal.

Water levels fluctuate routinely at Elwood Reservoir but in recent years Central has operated the reservoir at higher elevations for groundwater recharge purposes. In the summer of 2019, significant seepage was observed near the toe drain and right abutment of the embankment around the inlet-outlet.



Removal of trees and dirt work being done below Elwood Dam

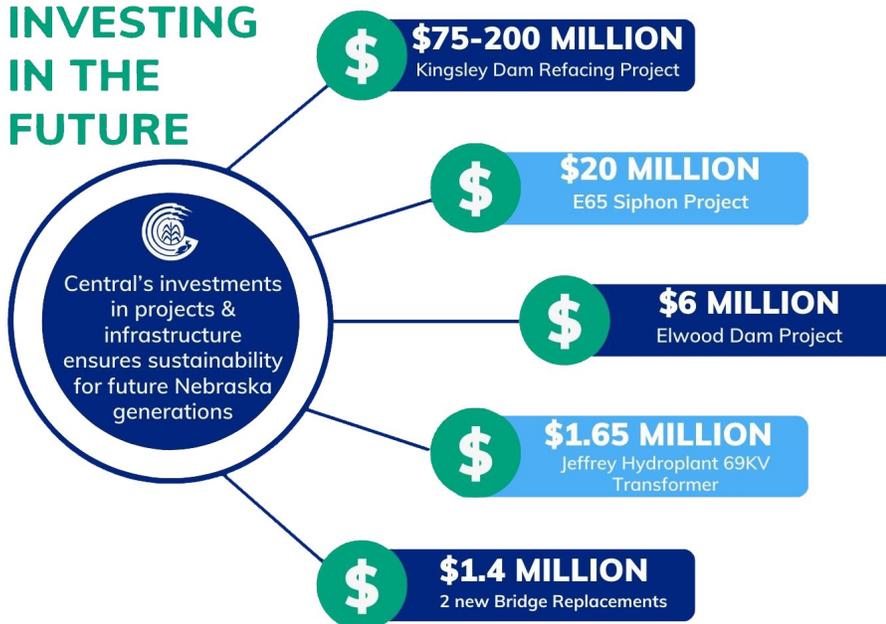
Central hired RJH Consultants to evaluate potential dam safety issues related to the seepage at the inlet/outlet embankment and near the main dam. Based on evaluations, RJH concluded that uncontrolled seepage posed credible dam safety issues and that a seepage mitigation system (SMS) should be installed. Central retained RJH to develop a design for the SMS and prepare documents for bidding.

After getting design approval from the state, BSB Construction of Curtis, Neb., was awarded the bid as the contractor to handle construction of the project.

Work began in September with removal of trees from below the dam. Work around the pump station began on November 1. The projected timeline to finish the project is August 2024.

The cost of the project is expected to be \$6 million. Central has received two financial commitments from other partners that benefit from storage in the reservoir to help offset some of the total cost of the project.

INVESTING IN THE FUTURE



Kingsley Dam Resurfacing Remains in Early Design Stages



The Central Nebraska Public Power & Irrigation District board of directors have retained RJH Consultants of Englewood, Colo., as the firm that will design the slope protection replacement project on the face of Kingsley Dam.

RJH provided the board with several preliminary alternatives for slope protection repairs. The options ranged from completely replacing the existing slope protection with pre-formed concrete blocks to an approach that would only be a temporary repair and provide a short-term solution to the areas showing damage. However, the consultant's investigation has determined that the existing riprap is undersized and lacks proper bedding over a much larger area of the dam and that a full dam refacing will ultimately be required

One option being studied is to replace the riprap with concrete-face soil-cement which could provide a cost effective long-term solution. Currently, the consultant is at the 50% design phase of the project. This design would require removing all the riprap on the facing of the dam and replacing it with the concrete-faced soil cement. Replacement of the current facing with a properly designed and filtered riprap system is also being considered. The area of the dam that must be resurfaced is roughly the equivalent of 30 football fields.

A timeline of when the project is scheduled to begin is still being determined by the consulting firm and the next four months will be spent working with national experts to decide on the best solution for the project. Initial estimates for the cost of the repairs range from \$80 million to \$200 million and the start date is likely to be no earlier than 2025..

Central officials stress that the dam is safe and the work to reface the dam is part of the District's responsibility to ensure that continued safe operation well into the future.

State Senators Visit Central Facilities During Tour of Perkins County Canal Project

Central has been a major stakeholder in promoting the "Perkins County Canal" project which will help secure Nebraska's full entitlement to the flows of the South Platte River from the state of Colorado. The South Platte Compact was signed in 1923 and establishes a right to 500 cfs of flow during the non-irrigation season (Oct. 15-Apr. 1) if the canal is built.

This year Central has welcomed Governor Pillen and members of the state legislature during numerous tours to showcase and discuss the importance of the project to the state of Nebraska. During the 2023 session, the legislature passed the budget which appropriated \$574.5 million to the project fund.

Every drop of water that is able to be captured by the new reservoirs in the Perkins Canal project and delivered for irrigation customers is one less drop that must come out of Lake McConaughy.



Governor Pillen was among a large group of state legislators and stakeholders that have visited the facilities at Lake McConaughy



State senators pose for a photo opportunity on the outlet structures at Lake McConaughy



General Manager Devin Brundage visits with state senators at the CNPPID diversion dam

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415 Lincoln St., P.O. Box 740
Holdrege, NE 68949-0740
(308) 995-8601

Editor: Alex Linden

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On the Lakefront



Johnson Lake Common Area Opportunities

The land administration team at Central continues to have discussions with JLDI and area associations in looking at potential options for uses of common areas or “open spaces” at Johnson Lake, as we continue to work with folks on numerous violations and unauthorized projects in these areas.

According to Central’s Land and Shoreline Management plan, other areas with the “A” classification are lands adjacent to intensively developed areas as support areas for roads, temporary parking and limited seasonal storage of water access equipment. These areas generally don’t support public recreational activities due to their separation from project water bodies and development near the shoreline. Central may allow lake associations and/or other community based groups to manage and care for the common areas under permits they would issue.

Central staff have developed a management option for area associations to consider moving forward. It is important to note that this option may not be feasible in certain areas due to numerous factors such as limited space and utility easements.

> Option 1 | Area Association Management Agreements:

Area associations have the ability to manage or improve the common areas through permits issued through Central. This process involves the area association submitting a plan for review that takes a unified approach to managing the common area and then working through the permitting process with staff. Plans could include roads, improved temporary parking, community garden, drainage plans, vegetation planting and removal plans or seasonal storage considerations. Issued permits would make the area association responsible for maintenance of the common area, including mowing.

> Option 2 | Historic Use of Common Area:

This option would be to continue to use the common areas in accordance with the Land and Shoreline Management Plan and the District’s Permitting Procedures. This option would not allow for new uses in the common area.

Johnson Lake Drawdown Taking Place the Fall

Central is lowering the water level this fall at Johnson Lake. The draw-down is scheduled to bring the lake elevation approximately 13 feet below normal operations level.

During the outage at Johnson No. 1 hydro plant, which is occurring from November 6-16, Central will fully inspecting the structures at Johnson Lake.

Central placed a temporary dike in the outlet canal of Johnson Lake. This dike allowed dewatering of the outlet canal to conduct a full inspection above the J-1 hydro plant. With lake levels low, it also provides Central the opportunity to check for and remove any remaining debris in the lake from the tornado event that occurred this past spring.

The drawdown began on Oct. 26. It will slowly fill during the outage and should return to normal water operations by the end of November.

| Employee Name | Project subject matter | Contact Info |
|--|--|---|
| Luke Ritz (Senior Land Administrator) | Land and Shoreline Management Plan; permit rules and regulators, Certified Contractor Program; lease questions | Office: (308) 537-3582x4186 Cell: (308) 529-0009 lritz@cnppid.com |
| DeAnna Ernstmeyer (Land Administrator) | Dwelling & Associated Construction Permit; dredge, excavate, fill permits; concession leases; residential lease questions & transfers; pre-construction/on-site meetings | Office: (308) 995-3563 Cell: (308) 991-5565 dernstmeyer@cnppid.com |
| Dustin Ehlers (Land Administrator) | Shoreline & Water Access Facility Permit (SWAF); erosion control permit; pre-construction/on-site meetings | Office: (308) 537-3582x4184 Cell: (308) 991-9778 dehlers@cnppid.com |

The Central Nebraska Public Power
and Irrigation District
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Holdrege, NE 68949-0740
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Irrigation Repairs and Maintenance Projects Begin

Maintenance and installation are the primary objectives for Central’s irrigation and maintenance divisions during October through March. Repairs to banks, turn out structures, pump stations and other facilities make up much of the work during the offseason.

Pipeline installations and bridge replacements also take place during the fall since these jobs can’t be easily done when there is water flowing through the system. These projects are needed to help maintain the reliability of the canal system.

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Installation of new HDPE pipe into the existing piping along the E65 system north of Bertrand



The CNPPID irrigation division provided meal tickets to more than 150 FFA students at several schools in the area that attended the 2023 Husker Harvest Days. (Pictured is the Axtell FFA chapter at HHD)

