



PROJECT SUMMARY

The Bowers Pond Dam Improvements and Auxiliary Spillway Project strengthened the safety, resiliency, and long-term operational reliability of a high hazard public water supply dam serving the greater Nashua, New Hampshire region. Owned by Pennichuck Water Works and designed by The Turner Group, the project modernized aging infrastructure to meet NHDES requirements, including passing the 1,000-year design storm without manual intervention. Construction was completed in 2024 by Bancroft Contracting. Partial funding was provided through the FEMA High Hazard Potential Dams Grant Program. The improvements ensure continued protection of critical water supply operations while enhancing flood resiliency and public safety.

Key solutions included replacing wood stoplogs with redundant stainless-steel double-leaf slide gates, removing a nonfunctional intake structure to reduce seepage risk, and constructing an articulated concrete block (ACB) auxiliary spillway to safely convey extreme flood flows. Extensive hydraulic and hydrologic modeling informed the design, while close coordination among the owner, engineers, contractor, and regulators ensured safe construction under variable water levels and limited downstream control.

KEY ELEMENTS & CHALLENGES

- » Active water supply operations maintained throughout construction
- » Spillway modernization: stainless steel weir slide gates for redundancy and reliability
- » Flood resilience improvements: ACB auxiliary spillway and concrete cutoff wall
- » Long-term value: enhanced public safety, sustainability, and operational efficiency

