Robinhood Park Reservoir Dam
High Hazard Potential Structure
Constructed in 1872 as a Water Supply
Later repurposed for recreational use
Reconstruction Date: 2014
Reconstruction Costs: $850,000

BEFORE CONSTRUCTION

- Constructed as an elevated reservoir adjacent to the downtown;
- 18’ in height and less than 100 acre-feet storage, but located in a high population density area;
- Estimated to overtop per 2008 evaluation; and
- Primary outlet is a 36” I.D. CMP pipe.

NOTES ON 2014 RECONSTRUCTION

- Primary outlet rehabilitated;
- Stabilized for overtopping using articulated concrete block (ACB), which was a first in NH application;
- Construction of a filtered exit/internal erosion mitigation system;
- Decommissioning of former water supply headworks; and
- Emergency Action Plan updates.
Goose Pond Dam and Dike
High Hazard Potential Dam
Constructed in 1868 as a Water Supply
Later repurposed as a recreational impoundment
Reconstruction Date: 2019
Reconstruction Costs: $916,000

BEFORE CONSTRUCTION

- Embankment stability concerns;
- Uncontrolled seepage;
- Appreciable embankment erosion;
- Deteriorated gate outlet;
- Trees located on the dam; and
- Discharge capacity concerns

Height = 22’
Length = 210’
Normal Pond Storage = 344 acre-feet

NOTES ON 2019 RECONSTRUCTION

- Embankment improvements including:
  - Crest widening;
  - Slope flattening/regrading;
  - Addition of a stability berm;
  - Filtered internal drainage system; and
  - Downstream stone headwall.
- Rehabilitation of intake gate; and
- Emergency action plan updates.
Babidge Reservoir Dam
High Hazard Potential Dam
Constructed in 1931 as a Water Supply
Reconstruction Date: 2018
Reconstruction Costs: $1.6 Million

BEFORE CONSTRUCTION

- Estimated to overtop during regulatory inflow design event; and
- Inoperable and dated inlet system.

Height = 38’
Length = 215’
Normal Pond Storage = 450 acre-feet

NOTES ON 2018 RECONSTRUCTION

- Construction of Articulated Concrete Block (ACB) auxiliary spillway on existing embankment;
- Improvement of existing embankments included:
  - Addition of vegetated side channel auxiliary spillway;
  - Flattening of slopes;
  - Parapet wall construction;
  - ACB stabilization;
  - Internal erosion mitigation features; and
  - Energy dissipation stilling basin.
- Decommissioning of former conduits through dam and installation of new gates; and
- Emergency action plan updates.

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Woodward Pond Dam
High Hazard Potential Dam
Constructed in 1910 as a Water Supply
Reconstruction Date: 2020 - Ongoing
Reconstruction Costs: $1.9 Million

BEFORE CONSTRUCTION

- Estimated to overtop during regulatory inflow design event;
- Inoperable and dated inlet system; and
- Downstream culverts undersized and generating tailwater.

Height = 22’
Length = 400’
Normal Pond Storage = 2,200 acre-feet

NOTES ON 2020 RECONSTRUCTION

- Height of dam increased with improvements including:
  - Parapet wall additions;
  - Slope flattening/regrading;
  - Upstream riprap stabilization;
  - Reinforced concrete abutment walls; and
  - Reconstructed spillway.
- Downstream embankment slopes and channel improved and stabilized for inflow design event flows with improvements including:
  - Slush grouted riprap;
  - Internal drainage features; and
  - Reconstruction of downstream culverts.
- Intake upgrades including a self-priming siphon – first in NH application; and
- Emergency action plan updates.
Future plans for the dam and adjacent urban recreational area have been a deeply debated topic. The City of Keene has taken a balanced approach in facilitating discussions around removal or reconstruction of the dam:

- 2012 the city estimated reconstruction costs at $400,000;
- 2012 removal feasibility study by DuBois and King, funded by American Rivers and NOAA, and under the direction of the City of Keene. Removal costs estimated to be $350,000, but would be partially covered through grants;
- 2012 concurrent to removal considerations the City Council voted to evaluate the Site as a FERC hydropower site. FERC granted initial approval; however, interest in this option has waned;
- The city commissioned various fish and wildlife, cultural, historical and recreational resources such as a dwarf wedgemussel survey within the adjacent river in 2013; and
- Per the 2012 masterplan, the City of Keene prioritized their dam related projects/funds based on a risk based evaluation. As a low hazard potential structure, the Ashuelot River Dam is anticipated to be a longer term project versus the four high hazard dams evaluated within the master plan. Short term mitigation actions have included annual inspection by the dam owner, increased coordination with the state, and flexibility to redirect resources if required;
- Currently the city is working with consultants from the Rhode Island School of Design and is targeting 2024 for reconstruction or removal. $88,000 in design funds have been dedicated for fiscal year 2024. The project is anticipated to focus strongly on community involvement.