

**Project:** DASNY Term Contract Renewal,  
Kingdom Dam

**Location:** Elizabethtown, New York

**Client:** Dormitory Authority of the State of New York

**Cost:** \$13.7K

**Year:** 2014

**Work Performed:**

- Topographic Survey & Mapping
- Waterway Bridge Structure & Roadway Profiles
- Downstream Structure Elevations
- Photo-documentation
- Dam Structure Field Inspection
- Demolition Plans
- Concrete Repair Design

New York State Department of Environmental Conservation (NYSDEC) ordered the completion of inspections and engineering assessments for NYSDEC-owned dams across the state. In order to meet dam safety regulations, NYSDEC directed the consultant team to conduct an engineering assessment and prepare recommendations for remedial action.

Kingdom Dam, a concrete gravity structure, was built in 1911 and sits at the north end of Lincoln Pond. Prudent conducted survey and field inspections of the outlet structure, and developed the design of remedial measures for the dam and related structures. Prudent's survey team documented the topography at the dam, including terrain upstream and downstream of the structure; obtained locations and elevations of structures/homes near or downstream of the dam; photo-documented structures and homes in proximity of the downstream area; collected survey points at the bridge and along selected cross sections on the waterway and at the dam; and established vertical and horizontal control at the dam site.

Prudent's structural engineers performed a field inspection of the dam to verify the proposed rehabilitation measures. Based on the scope of work, Prudent's engineering group designed and detailed staged demolition plans, concrete repairs, tie-in wall replacement, training wall and wingwall replacements, and spillway modifications. The spillway rehabilitation plan involved modifying the ogee profile and raising the spillway's elevation to account for the 100-year flood.



*Kingdom Dam*



*Kingdom Dam Outlet*