

Project: Roller Gate Rehabilitation for City of Camden



The Kaighn Avenue Tidal Dam in Camden County, NJ, contains a 45' x 15' roller gate. With only three of the original 30" OD wheels intact, emergency repairs were needed to make the gate functional.

Kaighn Avenue Tidal Dam West Tide Gate before (above) and after (below) repairs and recoating.



Rehabilitation included:

- Six wheels refurbished
- "Q-Blue" wheel bushings installed
- Gate disc inspected
- Axles and keeper plates replaced
- New bulkhead for right side of the disc designed and manufactured (was damaged when a wheel broke off and wedged between guide and gate disc)
- Wheel retainers redesigned (see box below)
- Side and invert seals replaced
- Debris guards redesigned and replaced

Design improvement:

The original wheel retainers were held on by one bolt at the end of each stem and had failed on half of the wheels. Quabbin redesigned the connection, adding a locking hub threaded and keyed to the stem. The threaded locking hubs allow the wheels to be adjusted side-to-side to run true with the replaced rails.



A 30" OD roller gate wheel before (left) and after (right) restoration and installation of a "Q-Blue" bushing.





Qualifications

Quabbin is an **ISO 9001-**, **AS9100-** and **ISO 13485-**certified gate component manufacturing company located in a 40,000-square foot facility in Wilton, NH. Quality parts, short lead times and broad capabilities have made the company a single-source parts supplier for the water, wastewater, hydroelectric and power industries for more than 25 years.

- Manufactured components for Rodney Hunt-Fontaine from 1996 to 2016 (when they closed).
- Make replacement parts for Armco, Chapman, Coffin, Coldwell-Wilcox, Craft gates and others.
- Supply stems and components to gate manufacturers in the US and Canada.

Recently-completed jobs:

- **Bureau of Reclamation Lower Colorado Dams:** Year 1 of Intake tower cylinder gate stem assemblies for upstream Nevada tower; supplied 1,000' of 6.5" Dia stems, 600' of 10" Dia stems, *Hoover Dam, Clark County, NV*
- **TVA:** Extension stems for six 24" gate valves, over 360' of stem, couplings, stem guides, operators and pedestals, *Raccoon Mountain Pumped Storage Plant, Marion County, TN*
- **Black River WWTP:** Two Rodney Hunt 6020 manual gear boxes, *Baltimore, MD*
- **City of Detroit:** Four top wedges on a 100-year-old 72" x 120" sluice gate manufactured by Michigan Valve, *Springwells Filtration Plant, Detroit, MI*
- **Abingdon WTP:** Stem for 42" x 42" sluice gate, *Hartford County, MD*
- **TVA:** Four 8" gate valve extension stems, couplings, stem guides and operators, *Wilson Dam, Muscle Shoals, AL*
- **Louisville Metropolitan Sewer District:** Stem, coupling and stop nut for flood gate, *Louisville, KY*
- **DC Water:** Three stems for 60" x 66" sluice gate in the grit removal chamber; also stem, coupling, operator nut and pedestal on a 36" x 36" sluice gate, *Blue Plains Advanced WWTP, Washington, DC*
- **City of New York:** Hinge posts for four 78" x 96" tide gates, *Hunt's Point Wastewater Treatment Plant, Bronx, NY*
- **Northern Indiana Public Service Co.:** Four 7" Dia x 38' L stems with 34' of thread, operator nut and stop nut for two flood gates, *Oakdale Dam, Carroll County, IN*
- **Whitewater WWTP:** Stems stop collar, operator nut, thrust nut, stem guides, *Whitewater, WI*
- **Paducah Levee System:** Stems, stem guides, operators, pedestals, stem covers, stop nuts on three 60" x 60 and three 48" x 48" sluice gates, *Paducah, KY*
- **Milwaukee Metropolitan Sewerage District:** Stems, thrust nuts, stem guides, couplings on two 108" Dia and one 84" x 144" sluice gate, *Milwaukee, WI*
- **Saukville WWTP:** Stems and seals for three 42" x 42" slide gates, *Village of Saukville, WI*
- **Tonawanda Water and Sewer Dept.:** Stems, pedestals, stem guides, stop collars, stem covers, wedges, invert seals, thrust nuts, couplings and electric operators, *Amherst, NY*
- **Allied Technical Services:** 28 split stem guides, *Apple Valley, OH*
- **Syracuse Levee:** Stem, stop collar, thrust nuts, stem guides, stem cover, pedestal and Limitorque operator, *New York State Dept. of Environmental Conservation, Kirkwood, NY*
- **Mari Corps, USA:** 72 jack stands designed to raise and lower the dock at Dangling Rope Marina on Lake Powell, *Kane County, UT*
- **Bureau of Reclamation:** Extension stems, couplings, operator stems, operator nuts, stem nuts, stop collars, thrust nuts, stem bellows nuts, *Derby Dam, Sparks, NV*
- **Green Mountain Power Corp.:** Stems (4.5" x 250" L, 220" thread), operator, operator nuts, pedestals, bellows, interconnecting shafts, stop collars for two 229.5" x 76" dual stem slide gates, *Marshfield Service Spillway, Marshfield, VT*