



**Patterndam Bridge Rehab / Repairs**



**Pine Plains Bridge/Barre Falls Dam**



**Otter Brook Lake | Access Road Repairs**



**Chittenden Brook | Road Reconstruction**



**Peters River | Erosion Repairs**

As part of the USACE's East Brimfield Lake Project, TANTARA was contracted to replace the 40-ft **Patterndam Bridge** in Holland, MA. Existing timber deck, tread planks and steel beams were installed in 1983. The bridge had two simple spans with concrete abutments and a concrete center pier; steel beams were bolted to the abutments and to the center pier. The bridge had been closed to vehicular traffic due to its condition. TANTARA provided all labor, material and equipment to remove and dispose of the existing deteriorated deck and beams. We also furnished and installed new steel beams, wood decking, safety rails and curbing. Construction was ongoing in October 2012 when *Hurricane Sandy* hit the East Coast. TANTARA was able to quickly be onsite in advance of the storm to secure/remove equipment.

TANTARA repaired damaged concrete and performed extensive structural repairs on the bridge and arch foundations of the **Pine Plains Bridge at the Barre Falls Dam** in Oakham, MA, and excavated shoaled material while widening the Parker's Brook channel to facilitate concrete repairs. To facilitate concrete repairs, TANTARA redirected the river. The project required permitting, concrete sounding and stringent QC for installed concrete. To allow bridge use during rehabilitation, all demolition and repairs were sequenced to preserve structural integrity. In addition to structural repairs on the foundations, both the up-gradient and down-gradient headwalls were repaired. TANTARA saw-cut and removed approximately 1,000 square feet of spalled concrete. Upon completion, TANTARA provided seeding and stabilization of the cleared areas with erosion mats.

TANTARA was contracted to provide gravel and grading services on the **Otter Brook Dam and Lake access road** in Keene, NH. The Otter Brook Dam is part of a network of flood control dams on tributaries of the Connecticut River. Completed in 1958 at a cost of \$4.4 million, Otter Brook Dam has a storage capacity of about 6 billion gallons of water. TANTARA was responsible for the addition of ~850 CY of Sur-Pac to the access road. Added material was graded flat to a 6 inch depth, 12 feet wide for ~3,700 feet of total road length. Final grade was designed to have a crown with ~3" of pitch to the middle from both sides of the road. After final grade, the road was compacted with a roller type road compactor.

TANTARA worked on the **Chittenden Brook Road (Forest Road 45) Reconstruction** project in the Green Mountain National Forest in Windsor County, VT. Work included mobilization, erosion control, removal of guardrail, excavation, structure excavation, backfill, riprap, geotextile, aggregate surface course, pit run, minor bridge repair, culverts, guardrail system, seeding/mulching, and other items incidental to this work.

After the 2010 spring floods, TANTARA was contracted to construct a slope protection system (SPS) and to remove sediments resulting from the slope failure at **Peter's River** in Woonsocket, RI. A cofferdam system was installed, utilizing water-inflated dams to divert waters into a lined channel. This gravity system allowed work to be performed with minimal impacts to the environment and neighborhood. The SPS consisted of layered rip-rap to meet the drainage, stability and armoring aspects of the design. Due to existing site constraints, we constructed the SPS in phases; after installation, TANTARA was contracted to clear the 1.200-LF conduit through which the Peters River flowed. The conduit had deposits of boulders, gravel, silt, and vegetation from the slope failure as well as trash, all of which had reduced its capacity to function as a viable part of the flood control system.

In 2011, TANTARA was contracted to mechanically dredge accumulated sediment from the Ompompanoosuc River at the intake channel of the **Union Village Dam** in Thetford, VT. Initial clearing and grubbing was performed over 3.5 acres to the east of the River, to gain access for the construction of temporary access roads and for the construction of two dewatering ponds. Approximately 5,000 SF of crane mats were utilized adjacent to a wetland area to allow access to the final section of dredging. Construction of dewatering ponds was accomplished using existing on-site materials and a four-foot earthen berm. TANTARA maintained the detention basins and dewatered the dredged material through filter bags and sediment control structures. In excess of 800 LF of sediment were dredged from the dam's intake channel. TANTARA used an excavation basin, comprise of a series of suspended curtains, to control turbidity; daily turbidity monitoring/reporting was conducted throughout the course of the project. Dewatered sediments were hauled off-site for disposal. Approximately 3,500 CYs were dredged on this project. At the Elizabeth Mine Superfund site, TANTARA staged, spread and compacted the dredged sediments on a weekly basis. Upon completion of the project, TANTARA provided restoration of the cleared areas.



**Union Village Dam  
Maintenance Dredging /Sediment Removal**

TANTARA was contracted to provide intake channel rock stabilization at **Birch Hill Dam** in Royalston, MA. TANTARA completed the construction of a concrete wall to protect the north face of the existing intake channel wall, and stabilized the rock cut face of the intake channel. Control/diversion of flows in the intake channel were required to construct the project in dry conditions. TANTARA was responsible for designing and utilizing a temporary crane-supported work platform. The project required the removal of detached and deteriorated rock from the cut face using a long excavator; excavation of the rock debris from the channel bottom; construction and operation of a sandbag cofferdam; horizontal drilling and rock anchor placement into the cut face; and forming and placement of structural concrete. Additional work included cutting/removing a section of the existing wing wall, installing railings, and installing a tile gage on the new wall. Construction was ongoing in late October when *Hurricane Sandy* hit the East Coast. TANTARA was able to quickly be onsite in advance of the storm to secure and/or remove equipment.



**Birch Hill Dam | Stabilization**

The Edward MacDowell, Blackwater, Franklin Falls, Hopkinton and Everett Dams were constructed by the USACE to lessen flood damages to communities within the Merrimack River basin. TANTARA was contracted to reconstruct the eroded embankment along the **Edward MacDowell outlet works channel**, in Peterborough, NH. The work included restoration of drainage swales, planting grass on the slope that had recently been cleared of trees, removal of four stumps, and repair of erosion damage.



**MacDowell Dam | Slope Stabilization**

TANTARA was asked to conduct several tasks at the **Barnes ANG Base** including:

**Catch Basin Installation:** The project included excavation and off-site recycling of trees and spoils, and installation of geotextile and drywall as well as stone and masonry risers, and a frame/grate. The area was regraded to promote drainage.

**Gym Expansion:** Building 12 renovations included removal of a suspended ceiling and walls; adjustments to utilities; elimination of AC ductwork; enclosure of the room with studs and wallboard; specialized interior painting; and lighting. We installed 8 new ceiling fans and an AED cabinet; removed existing flooring; installed rubber sports flooring and a new door entrance; installed new government-provided flat panel TV screens and new outlets, and a drop ceiling.

**R-11 Refueler Parking Area Renovations:** TANTARA was asked to layout, installation and performing of concrete, electrical, piping, plumbing work and testing related to the refueler parking area project at Barnes.

**Hangar Door Repairs:** TANTARA was asked to ensure materials used for the hangar door repair project were in compliance with the approved materials; to forward weekly progress reports, interpret specifications and drawings, and enforce all safety requirements.



**Barnes Air National Guard Base**