Celebrating Success: Elizabeth Mine Superfund Site Strafford, Vermont

EPA

Superfund Redevelopment Initiative

Land available for redevelopment. (*Source:* EPA)

"*This is the largest commercial project to be built in Strafford since the copper mines reopened in the 1940s.*"

– Dori Wolfe, Wolfe Energy

An archeologist examines mining structure remains. (*Source:* EPA)

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Elizabeth Mine historical site marker by the Vermont Division for Historic Preservation. (*Source:* EPA)

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Once a contaminated mine site, historic portions of the Elizabeth Mine Superfund site in Strafford, Vermont, are now conserved and new wetland areas have been created.

The 1,400-acre site in east-central Vermont had over 150 years of mining activity. It was primarily used to mine copper until 1958 when mining operations ceased. These operations and resulting mining wastes contaminated soil, groundwater and sediments with heavy metals and acid-rock drainage. EPA added the site to the Superfund program's National Priorities List in June 2001. EPA selected a non-time-critical removal action in 2002 and a cleanup plan in 2006 to address immediate threats to human health and the environment. Activities involved stabilization of the tailing dam and installation of surface water and ground water diversion structures. Additional actions included the consolidation of 400,000 cubic yards of waste rock/heap leach piles onto the tailings impoundment for placement under the cover system.

At Elizabeth Mine, EPA worked to develop a green remediation program to minimize or eliminate negative effects on the local environment. The plan included using on-site material for backfill and site restoration, reducing air contaminants associated with fuel consumption, establishing processes for recycling of waste materials and procuring environmentally friendly products for remediation. By using more than 90,000 cubic yards of backfill obtained on site, the cleanup eliminated more than 6,000 truck trips for off-site disposal. This saved nearly one million pounds of air emissions. EPA also established 10 acres of vegetative wetlands for ecological reuse of disturbed areas. In 2014, the U.S. Army Corps of Engineers Sustainability Award Program presented the Green Dream Team Award to the Elizabeth Mine Superfund Site Project Delivery Team for the wetland restoration at the site.

In addition to green remediation and ecological restoration work at the site, EPA worked closely with the state of Vermont and Strafford Historical Society to ensure historical artifacts and structures relating to the mining operation were preserved during cleanup. EPA undertook archaeological investigations at parts of the site, completing detailed written and photographic documentation of the historic buildings and landscape. The state of Vermont conserved historic mining buildings. Artifacts recovered from these buildings include furnace parts, lead sheet and pipe, glass, and nails. Site ecological revitalization and historic conservation provide opportunities for the community to rediscover a piece of its heritage.

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