Superfund Redevelopment Initiative

SITE REDEVELOPMENT PROFILE

Elizabeth Mine Superfund Site

Strafford, Vermont

An aerial view of the Elizabeth Mine Superfund site. (Source: Image used with permission from Weston and Sampson, Conti Solar and Elizabeth Mine Solar LLC.)

Site Location: Mine Road, Strafford, Vermont 05070

Size: 1,400 acres

Existing Site Infrastructure: All major types of infrastructure are located on site.

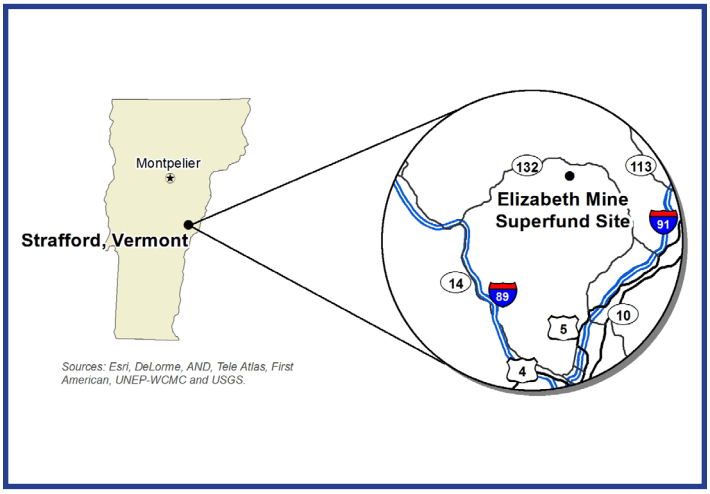
Current Site Uses: A solar farm, historic mining structures and wetlands are located on site.

Use Restrictions: Institutional controls prohibit disturbance of the soil cap and residential uses on site.

Surrounding Population: within 0.5 mile, 0 people; within 2.5 miles, 661 people; within 4 miles, 1,989 people.

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. Additional reuse on site includes a new 7-megawatt solar farm. Cleanup at this site has paved the way for multiple reuses that benefit the surrounding community.

Copper mining took place at the 1,400-acre site for over 150 years, from the early 1800s to 1958. These operations and resulting mining wastes contaminated soil, groundwater and sediments with heavy metals. EPA placed the site on the Superfund program's National Priorities List (NPL) in June 2001. EPA selected short-term cleanup actions to address immediate threats to human health and the environment in 2002 and a long-term cleanup plan in 2006. Activities included stabilization of the tailings dam, installation of surface water and groundwater diversion structures, and consolidation and capping of 400,000 cubic yards of waste rock and heap leach piles.



Location of the site in Strafford, Vermont.

As part of cleanup planning, EPA developed a green remediation program to minimize negative impacts on the environment from the cleanup. It included using on-site material for backfilling and site restoration, reducing air pollution associated with fuel usage, recycling waste materials and using environmentally friendly products for the cleanup. The use of more

SITE HISTORY AND REDEVELOPMENT TIMELINE

Early 1800s - 1958	Mining operations and copper smelters operated on site.
2001	EPA added the site to the NPL.
2002	EPA conducted a removal action on site.
2003 - 2005	EPA stabilized the tailings pile with soil buttress and repaired the tailing dam.
2006	EPA selected a remedy for the site.
2008	EPA built a water treatment system on site.
2010 - 2012	EPA consolidated the mine waste and constructed the 45-acre cover system over the tailing impoundment.
2014	The U.S. Army Corps of Engineers presented the Green Dream Team Award to the Elizabeth Mine Superfund Site Project Delivery Team.
2017	Developers completed construction of the solar farm on site.
2019	EPA completed cleanup of the South Mine and South Open Cut Pit Lake and transitioned from active treatment to passive treatment of the leachate from the tailing impoundment.
2006 - present	Site cleanup is ongoing.

"It takes a whole community, a state, to build a solar field on a Superfund site. This mine over the years has given so much to Strafford and Thetford and the state, and now (it will bring) a new tax base to the communities and state in a clean, renewable way.

– Dori Wolfe, Wolfe Energy

than 90,000 cubic yards of on-site material for backfill eliminated the need for about 6,000 truck trips to dispose of the material off site. In turn, this eliminated about 1 million pounds of air emissions. EPA also established 10 acres of wetlands, returning disturbed areas to ecological use. EPA also restored a portion of the Ottaquechee River. 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 wetland restoration efforts at the site.

In addition to green remediation and ecological restoration work at the site, EPA worked closely with the state of Vermont and the Strafford Historical Society to make sure historic mining artifacts and structures were recovered, preserved and documented during cleanup, as well as created historical interpretive signs and educational materials explaining the history of the site. The state of Vermont conserved artifacts including furnace parts, lead sheets and pipes, glass and nails. In 2017, developers completed construction of a 7-megawatt solar farm on the site. The facility's 19,990 solar panels rest on a ballast rack system to protect the site's capped area; the solar farm provides enough electricity to power 1,200 homes annually. Cleanup has provided a way for the site to serve as a source of clean energy as well as enabling ecological revitalization and historic preservation, providing long-term community benefits.

FOR MORE INFORMATION

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In May 2017, EPA established a task force to restore the Superfund program to its rightful place at the center of the Agency's core mission to protect health and the environment.

epa.gov/superfund/superfund-task-force