EPA United States Environmental Protection Agency

Site Redevelopment Profile

Nyanza Chemical Waste Dump

Megunko Road, Ashland, Massachusetts 01721

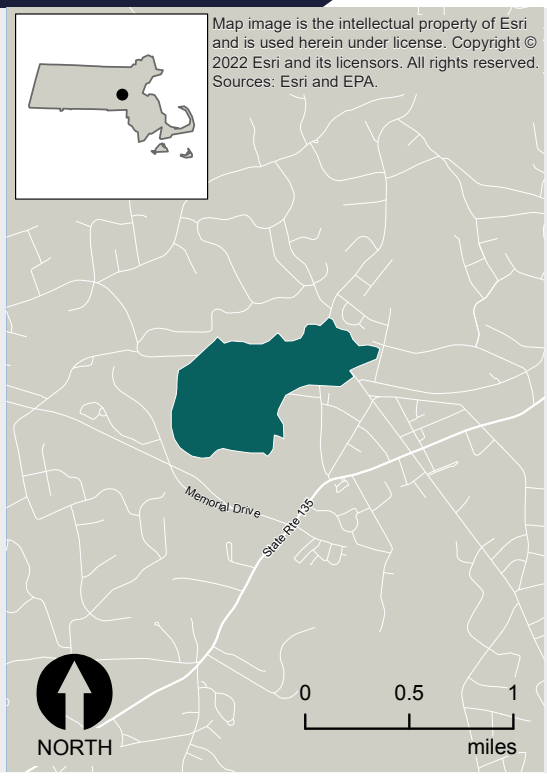

Figure 1. The location of the Nyanza Chemical Waste Dump site in Massachusetts

Property Overview

Size
35 acres

Current Site Uses
- Industrial and commercial businesses
- Solar array on the capped site landfill
- 5.5 acres of restored wetlands

Use Restrictions
- Restrict installation of groundwater wells above the groundwater plume.
- Local advisories encourage limiting consumption of fish from the Sudbury River.

Surrounding Population
- The town of Ashland is in Middlesex County. It is located 25 miles west of Boston and 20 miles east of Worcester, and is 12.93 square miles in size.

4,799	39,362	112,068
1 MILE	3 MILES	5 MILES

Site History and Redevelopment Timeline

1917-1978
Companies produced textile dyes and other products on site.

Manufacturing and waste disposal practices contaminated soil, sediment and groundwater.

1982
EPA added the site to the Superfund program's National Priorities List (NPL).

1985
EPA initiated investigations and selected the first cleanup plan to address site contamination. EPA continued site investigations, publishing cleanup plans and updates for four operable units from 1991 to 2020.

1987-1992
EPA excavated contaminated soil, sediment and sludge from the site, placed the material in an on-site landfill, and capped the area.

1999-2001
EPA cleaned up mercury-contaminated sediment in abutting wetlands/streams.

2007
EPA installed mitigation systems in 41 buildings to minimize exposure to volatile organic compound (VOC) vapors from the contaminated groundwater plume.

2013
EPA installed two dense non-aqueous phase liquid (DNAPL) extraction and recovery wells.

2019
Ashland Solar constructed a solar array on top of the site landfill.

2020
EPA selected a final groundwater cleanup plan.

Present
The current site owner leases parts of the site to several industrial and commercial businesses. The solar array continues to operate on the landfill cap. Groundwater cleanup is in progress. Land use controls prevent exposure to contaminated soils and groundwater. Engineering controls are in place to reduce the potential exposure to VOC vapors in buildings located within a vapor mitigation area delineated by EPA. Two DNAPL extraction systems were installed to address groundwater contamination. The town of Ashland works with EPA to identify and review proposed construction projects within site boundaries.

History and Cleanup

The 35-acre Nyanza Chemical Waste Dump Superfund site is in Ashland, Massachusetts. From 1917 to 1978, companies made textile dyes and other products at the site. Operators buried solid waste on site and on Megunko Hill, which was used as an unsecured landfill. Disposal activities also included releasing wastewater into a system of lagoons and storage areas that drained into nearby wetlands and the Sudbury River. These improper waste handling practices resulted in groundwater, soil and sediment contamination. EPA added the site to the NPL in 1982.

EPA used a five-stage approach for site cleanup that included initial removal actions and four long-term phases. In 1985, EPA started site investigations and selected a cleanup plan to address the site's source area. EPA continued investigations and published a total of four cleanup plans for different areas of the site (operable units 1 through 4). As EPA gathered new information about the site, previous cleanup plans were updated as needed. EPA's cleanup included removal of contaminated soil, sediments and sludge from the site and capping of contaminated soils. Cleanup also included wetlands restoration, DNAPL removal and restrictions on groundwater use.

From 1999 to 2001, EPA worked to restore affected wetlands, including the 5.5-acre Eastern Wetland, on site. EPA dug up mercury-contaminated sediments and put them in the on-site landfill, which was later capped. EPA also conducts periodic fish tissue sampling to monitor mercury in the Sudbury River. Fish consumption advisories are posted in six communities along the Sudbury River.

In 2007, EPA installed 41 vapor mitigation systems in buildings above the groundwater plume to prevent VOC vapors from migrating into buildings. In 2013, EPA installed two extraction wells to remove residual DNAPL from the site source area. In 2020, EPA selected a final remedy to address VOC-contaminated groundwater, and is currently in the design phase. The cleanup plan includes in-situ treatment, expanded DNAPL extraction/recovery, groundwater monitoring, and expanded institutional controls for vapor intrusion in new and expanded building construction.

41
vapor mitigation systems installed in buildings

5.5
acres of wetlands remediated

Figure 2. The remediated and restored 5.5-acre Eastern Wetland

Figure 3. Posted fish consumption advisory sign

Redevelopment

EPA's cleanup efforts allowed for site landowners to continue leasing land to several industrial and commercial businesses. NYACOL Nano Technologies, a chemical manufacturer, is the largest operator at the site. Other site operators include automotive repair and body shops, air conditioning and heating services, and trucking companies.

In May 2018, developer Ashland Solar reached out to EPA and the Massachusetts Department of Environmental Protection (MassDEP) regarding the site's solar potential. The developer's proposal included two arrays. The first array would be located on top of the site's landfill cap. The second array would be located off site, immediately south of the landfill. EPA and MassDEP reviewed the proposal and worked with the developer to ensure a solar array would be compatible with the site's remedy and protective of the landfill cap. In December 2019, Ashland Solar completed construction of the new grid-connected solar array and it began operating on the site's landfill cap. This array, together with the second solar array, generates up to 5.8 megawatts of electricity.

Collaboration among EPA, MassDEP and developers helped shepherd the site into further beneficial use for the community. Today, the continued operation of industrial and commercial businesses on site provide jobs and tax revenue to the local government, while the solar array provides a renewable source of energy to the region's electric grid.

Figure 4. The solar array on site

Figure 5. Several automotive repair shops operate on site

Contacts

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