

Saco Municipal Landfill Superfund Site Saco, Maine



Background

The Saco Municipal Landfill Superfund Site (site) comprises an 80-acre parcel containing four distinct landfill areas, and an approximately 10-acre area of wetlands. The site is located within 168 acres of contiguous property owned by the city of Saco. The city operated the landfills from 1963 to 1988 (See Site Location Map, Figure 1). The landfills were used for municipal solid waste, commercial waste and, in some cases, industrial wastes such as tannery sludge. The city continues to operate a transfer station on a parcel of land adjacent to the site; however, the four landfill areas are closed.

Quick Facts

Location:	Foss Road Saco, Maine
Acreage:	90 acres (approximate)
Current Uses:	Closed landfill, transfer station
Planned Uses:	Active and passive recreation. Nature conservation.
Ownership:	Municipal
Cleanup Status:	Construction activities complete. Long-term monitoring.
Surrounding Land Uses:	Residential, municipal, undeveloped

The state of Maine began an environmental investigation in 1974 following reports that leachate from Landfill Area 1 was potentially impacting nearby surface water and ground water. This resulted in municipal water supply lines being extended to residents along Buxton Road and Jenkins Road in 1975, and a cap being placed over the landfill in 1976. In 1985, a cap and a leachate recirculation system were built at Landfill Area 2.

To bring about a more comprehensive cleanup, the site was added to the federal Superfund National Priority List (NPL) in 1990. A Superfund study found that leachate from Landfill Area 3 and 4 was causing unacceptable levels of naturally-occurring arsenic and manganese to mobilize into groundwater and flow into a wetland and Sandy Creek.

A Superfund cleanup action for Landfill Areas 3 and 4, completed in 1999, included the installation of a cap and passive gas venting system, the creation of wetlands to compensate for wetlands impacted by the construction of the cap, and certain land use restrictions. The city will need to maintain the landfill cap and perform long-term monitoring of the surface water, sediments and groundwater. Additional details on the investigation and cleanup activities can be found in the *Cleanup Status* section.

EPA will conduct reviews of the site every five years to ensure that the Superfund remedy is effective and operating as intended. The first so-called Five-Year Review, completed in September 2005, concluded that the remedy is protective of human health and the environment in the short-term and long-term.

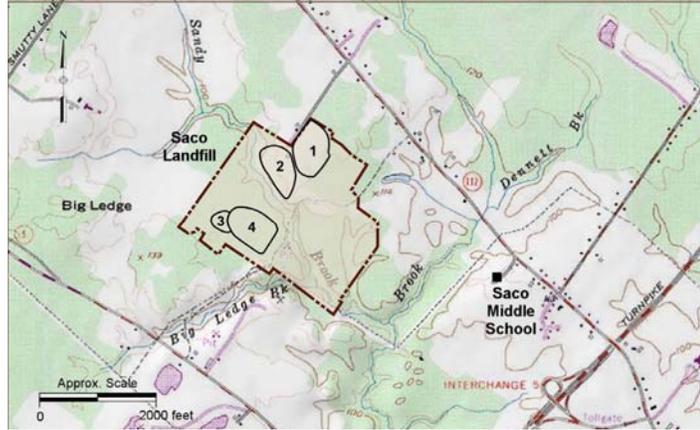


Figure 1 - Site Location Map

Reuse Status

In the spring of 1998, the city of Saco established a Recreation Advisory Committee made up of 11 residents to prepare recommendations for the reuse of the 168-acre property (property). The Committee's *Recreation and Reuse Plan*, produced in December of that year, describes a comprehensive vision that incorporates active and passive recreational uses and nature conservation areas. The city has since made some revisions to the original reuse plan.



Future playing fields in Reuse Area A

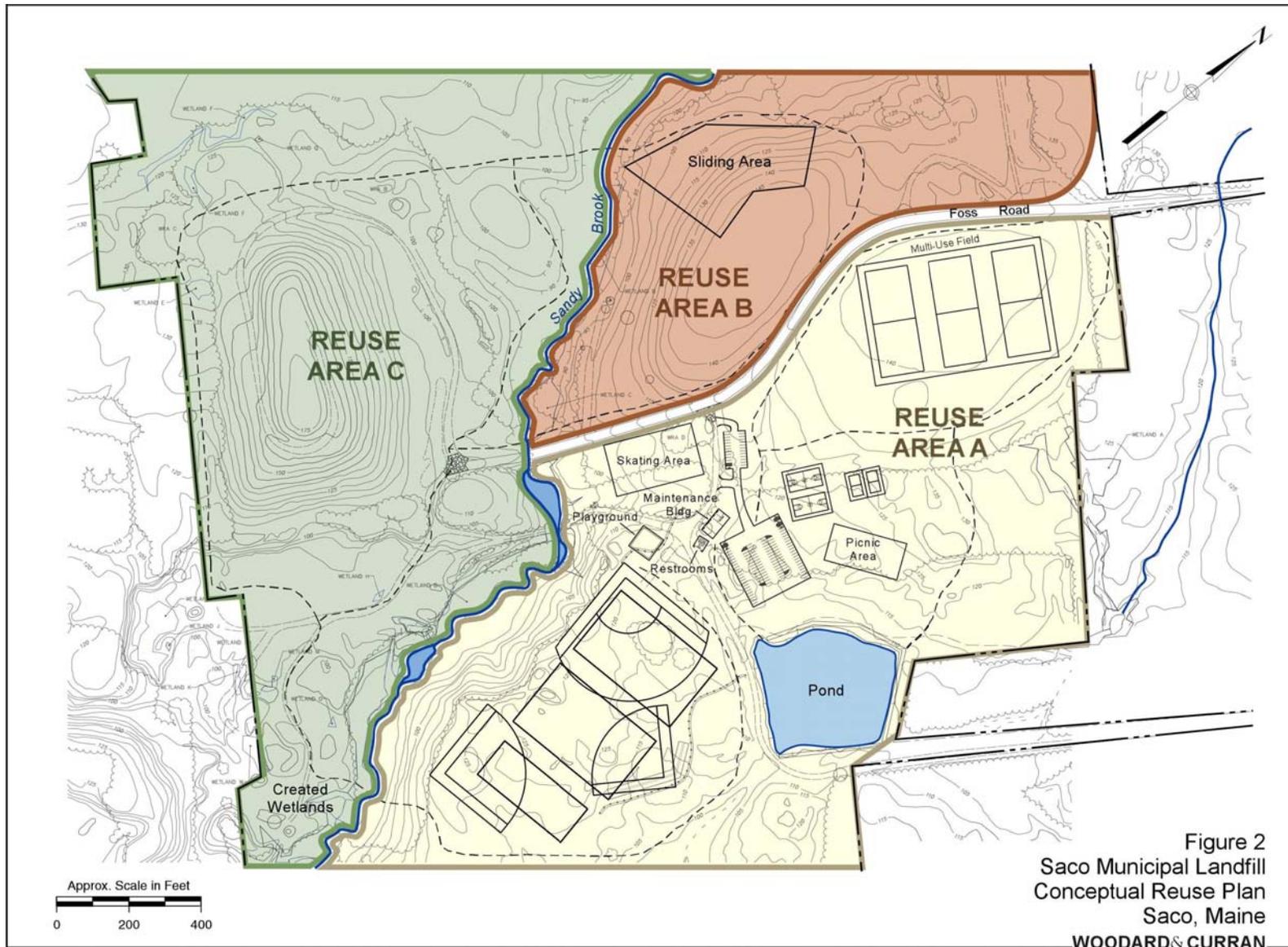
Implementation of the reuse plan is already underway in some areas of the property, while other components will be added in later phases. EPA and the Maine Department of Environmental Protection (ME DEP) will continue to work with the city to ensure that the intended uses are safe and compatible with the cleanup remedy.

Reuse Plan

In the following description of the city's current reuse plan, the property has been divided into three areas (See Figure 2).

Reuse Area A -- where most of the active recreational uses are located -- comprises the area to the east of Foss Road and north-east of Sandy Brook. Reuse Area B consists of the area bordered on the east by Foss Road and the southwest by Sandy Brook. Reuse Area C is the area to the west of the brook.

A network of trails will provide passive recreation opportunities for hikers, snowshoers, cross-country skiers, horseback riders, trail runners, and other non-motorized uses. The city also plans to link these trails through a right-of-way to the Middle School and nearby woodlands located a short distance to the southeast. This will provide greater pedestrian access and allow for the creation of a cross-country running course for the school.



Saco Landfill Reuse Profile

Figure 2
Saco Municipal Landfill
Conceptual Reuse Plan
Saco, Maine
WOODARD & CURRAN

Primary access to the property will be from Foss Road, which will be upgraded to facilitate use by cars and emergency vehicles.

Reuse Area A

Multiple-use fields will be located on former Landfill Area 1. These fields will utilize self-standing goal posts to accommodate flexible use and eliminate the need to install the posts into the landfill cap. These fields have already been graded and vegetated; however, the city will be re-seeding the area with grass more suitable for playing fields. The city expects these fields to be ready in the spring of 2007.



Second area of playing fields under construction

A second area of playing fields will be built in the southern portion of Reuse Area A. This area was previously the location of the borrow pit for soil used to construct the Landfill Area 3 and 4 cap. These playing fields are now under construction and should be available in

the spring of 2008. Also planned for this area are a concession stand, rest rooms, a playground, and a storm water retention pond that will be utilized for an outdoor skating rink. Parking lots – centrally located in this area -- will service the recreational-use areas throughout the property.

An approximately 2 ½-acre former borrow pit has been replanted with wetland vegetation and transformed into a pond that will be used as a catch-and-release fishing hole and nature study area. A picnic area will also be located here. Future plans for this area include a handicap-accessible dock and walkway, and possibly tennis and basketball courts.



Reclaimed pond

Reuse Area B

The transfer station and composting area, currently located immediately opposite Landfill Area 1, will be moved further to the northwest of Foss Road. Trees and other vegetation will be added to separate the transfer station, both physically and visually, from the recreational-use areas.

The western slope of the closed Landfill Area 2 will be utilized as a sledding area in the winter, and a side trail leading to the top will provide impressive year-round views.

Reuse Area C

A former sand and gravel pit southeast of the landfills has been converted into a thriving wetland area. The wetland, which includes several small ponded areas, provides valuable habitat for wildlife and an easily-accessible nature study area. Nesting boxes have been placed in the wetland to attract wood ducks.

Reuse Area C is being allowed to return to its natural conditions; however, the landfill will need to be maintained to prevent deep-rooted vegetation from penetrating the cover system. The grasses and other meadow vegetation growing on the landfill will contribute to the establishment of diverse wildlife habitat on the property.



Cleanup Status

Following the listing of the site on the NPL, EPA performed groundwater studies from 1992 to 1994. The following year, the city of Saco agreed to conduct a comprehensive study of the site -- called a Remedial

Investigation/Feasibility Study (RI/FS) -- which found that Landfill Areas 3 and 4

were acting as a contamination source area adversely impacting groundwater, Sandy Brook and wetlands. This led to the construction by the city of the multi-barrier cap and venting system for Landfill Areas 3 and 4, the creation of alternate wetlands, and the establishment of institutional controls. The construction activities were completed in late 1998 and the institutional controls finalized in 2000.



Top: Nesting box in the newly-created wetlands
Bottom: The wetlands under construction

The institutional controls consist of land use restrictions (i.e., a “Grant of Environmental Restrictions and Right of Access”) that apply to certain portions of the site. Prohibited uses include: activities that disturb the integrity of the cap and associated systems, residential development, and groundwater and surface water use within and in proximity to areas of groundwater contamination. In addition, groundwater use is limited in areas where the pumping of groundwater could cause the contamination to migrate.

In September 2000, EPA issued a Record of Decision (ROD) specifying the actions necessary for long-term protectiveness of the site. The ROD concluded that the closure of Landfill Areas 1, 2, 3 and 4, combined with the institutional controls, would address the health threats posed by those areas and control future contaminant migration in groundwater. The ROD further concluded that the remaining groundwater contamination would be safely mitigated through natural attenuation – the process through which

Saco Municipal Landfill

contaminants are degraded or bound to the soil by natural chemical, physical or biological processes. A program of long-term monitoring was also specified.

The September 2005 Five Year Review Report did not identify any significant issues regarding the site; however, it was noted that the groundwater contamination, originally projected to meet cleanup goals in approximately 60 to 100 years, may be attenuating at a slower rate.

<u>Key Events</u>	
1963-1988	City operates landfills
1974	State of Maine initiates environmental investigation
1975	Municipal water supply lines extended
1976	Landfill Area 1 capped
1985	Landfill Area 2 capped
1990	Site added to the NPL
1992-1994	EPA performs groundwater studies
1995	Remedial Investigation initiated
1998	City prepares <i>Recreation and Reuse Plan</i> Landfill Areas 3 and 4 capped and alternate wetlands created
2000	Institutional controls finalized
2005	First EPA <i>Five Year Review</i> completed

For Additional Information:

EPA Project Manager

Ed Hathaway
(617) 918-1372
hathaway.ed@epa.gov

EPA Community Involvement

Pamela Harting-Barrat
(617) 918-1318
harting-barrat.pamela@epa.gov

ME DEP Project Manager

Iver McLeod
(207) 287-8010
Iver.j.mcleod@maine.gov

City Contact

Joe Hirsch, Director
Parks and Recreation Department
(207) 283-3139
jhirsch@sacomaine.org

EPA Web Site: <http://www.epa.gov/region1/superfund/index2.htm>