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## Explanation of Significant Differences

# VOLNEY LANDFILL SITE

TOWN OF VOLNEY  
OSWEGO COUNTY, NEW YORK

EPA  
Region 2

August 2010

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### INTRODUCTION

In accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. §9617(c), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Contingency Plan, if after the adoption of a final remedial action plan, there is a significant change with respect to the final plan, an explanation of the significant differences and the reasons such changes were made must be published.

The Environmental Protection Agency's (EPA's) 1987 Record of Decision (ROD) for the Volney Landfill site, as modified by a 1989 Post-Decision Document (PDD) and 1997 and 2001 Explanations of Significant Differences (ESDs), called for, among other things, the capping of the landfill side slopes<sup>1</sup>, groundwater extraction and treatment, on an as-needed-basis, long-term monitoring, and institutional controls<sup>2</sup> to prevent the use of contaminated groundwater downgradient from the landfill. Subsequently, EPA determined that it would be beneficial to implement an institutional control to prohibit any activity that would affect the integrity of the landfill cap. Accordingly, an Environmental Protection Easement and Declaration of Restrictive Covenant was filed with the Oswego County Clerk.

This ESD serves to document the change to the remedy (implementation of an institutional control to prohibit any activity that would affect the integrity of the landfill cap), which is not considered by EPA to have fundamentally altered the remedy selected in the ROD. The remedy remains protective of human health and the environment, as documented in the second five-year review, published in August 2010.

This ESD will become part of the Administrative Record file for the Site. The entire Administrative Record for the Site, which includes the remedial investigation and feasibility study (RI/FS) reports, Proposed Plans, RODs, Five-Year Review reports, and other relevant reports and documents related to the Site are available for public review at the following location:

Fulton Public Library  
160 South First Street  
Fulton, NY 13069

*Hours:* 10:00 A.M. - 5:00 P.M. (Monday, Friday, and Saturday),  
10:00 A.M. - 8:00 P.M. (Tuesday - Thursday)

The Administrative Record file and other relevant reports and documents are also available for public review at the EPA Region II office at the following location:

U.S. Environmental Protection Agency  
290 Broadway, 18<sup>th</sup> Floor  
New York, New York 10007  
*Hours:* 9:00 a.m. - 5:00 p.m.  
Monday - Friday

### SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

The 85-acre Volney Landfill is located in a rural area of the Town of Volney, New York. Bell Creek, which flows north to south, is located to the east of the landfill and wetlands are located to the north, east, southeast, and southwest of the landfill.

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<sup>1</sup> The top of the landfill was capped in the early 1980s.

<sup>2</sup> Institutional controls are non-engineered instruments, such as administrative and/or legal controls, that help reduce or eliminate the potential for human exposure to contamination and/or protect the integrity of a remedy.

Landfilling operations were conducted in a 55-acre unlined disposal area from 1969 to 1983. Most of the waste materials disposed of at the landfill consisted of residential, commercial, institutional, and light industrial wastes; however, approximately 8,000 drums from Pollution Abatement Services, a hazardous waste incineration facility located in Oswego, New York, were approved for disposal at the landfill by the New York State Department of Environmental Conservation (NYSDEC). While the approval applied only to discarded drums containing known and limited chemical residues, it was later reported that approximately 50 to 200 of these drums contained liquid waste of unknown volume and composition. The physical condition and locations of these drums in the landfill are unknown.

After groundwater quality standards were contravened in monitoring wells located near the site, in 1979, NYSDEC entered into a consent order with the current owner of the landfill, Oswego County. The consent order required capping the landfill top with a liner and soil, capping the side slopes with compacted soil, installing a gas collection system, and installing a leachate<sup>3</sup> collection system. This work was performed between 1979 and 1985. Off-site leachate disposal and groundwater monitoring have been performed since the completion of the closure activities.

In October 1984, the Volney Landfill site was included on the Superfund National Priorities List.

An RI/FS was conducted from 1985 to 1987 by NYSDEC, and a ROD was signed by EPA on July 31, 1987. The selected remedy included capping of the landfill side slopes with an impermeable membrane, installation of a more extensive leachate collection drain system and a subsurface groundwater containment barrier (slurry wall), treatment of the collected leachate either on- or off-site, and long-term monitoring. The ROD called for a supplemental investigation to evaluate the potential for the migration of contaminants in the groundwater and to the surface water and sediments of the adjacent Bell Creek and wetlands surrounding the site.

After the signing of the ROD, it was learned that a quality assurance/quality control review of the analytical data associated with the RI data had not been performed. EPA resampled the site in 1988 and, based upon the sampling results, concluded that hazardous substances were present at the site at levels that posed a risk to public health and the environment. On September 29, 1989, EPA issued a PDD, which reaffirmed the remedy selected in the ROD.

Studies at the site conducted from 1989 to 1990 provided information about off-site and on-site leachate treatment and disposal, as well as updated construction costs. The studies also concluded that before any cost-effectiveness decisions related to the slurry wall or leachate treatment could be made, additional testing was needed to resolve several critical issues concerning the hydrogeology at the site (*i.e.*, groundwater flow issues, possible artesian conditions, and the lack of any reduction in leachate collection volumes since the 1985 capping of the top of the landfill).

An Administrative Order on Consent was signed in 1993 for the performance of a pre-design study by a group of 33 potentially responsible parties (PRPs). Based upon the results of this pre-design study, which was completed in 1997, EPA determined that there was no definable contaminant groundwater plume at the site, only intermittent changes in contaminant concentrations in the groundwater migrating from the landfill area, and that natural attenuation was occurring in a sizable buffer zone between the landfill and eight downgradient residential wells. This conclusion was based upon the fact that site-related contamination had not been found in the downgradient private wells, with the closest well being located approximately 450 feet from the landfill. In addition, it was determined that the installation of a slurry wall and a more extensive leachate collection drain system would not offer a significant protective benefit when considering its relatively high cost and the relatively low contaminant concentration of the leachate generated from the landfill. It was also determined that off-site treatment and disposal of the leachate would be more cost-effective than on-site treatment and disposal (*i.e.*, due to the low concentration of the leachate being generated and the significant cost to construct and operate an on-site treatment facility). Based upon these findings, an ESD was issued by EPA on August 7, 1997, which concluded that a slurry wall would not be installed, the intermittent groundwater contamination would be extracted on an as-needed basis, and the extracted groundwater would be treated off-site.

A "Contaminations Pathways" investigation to evaluate the potential for the migration of contaminants in the groundwater to outlying areas and to the surface waters and sediments of Bell Creek, Black Creek, and the wetlands surrounding the site, as called for in the ROD and PDD, commenced in 1990 under an Administrative Order on Consent with 37 PRPs. The investigation, however, was postponed while the pre-design study, noted above, was completed. The Contaminations Pathways investigation was reactivated in 1998 (concurrent with the initiation of the design).

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<sup>3</sup> Leachate is the liquid that trickles through or drains from the land filled waste, carrying soluble components from the waste.

This investigation, which was completed in 2001, found that the groundwater in the more outlying areas from the site did not contain site-related contaminants and also that the level of site-related contaminants present in the surface water and sediments in the immediate area (inner perimeter) of the site did not pose a public health or ecological threat. Based upon the results of this investigation, an ESD, which was issued on October 19, 2001, determined that intermittent groundwater extraction and treatment, in combination with natural attenuation, would adequately address the site-related groundwater contamination at the site (*i.e.*, in the immediate perimeter around the site); the surface water and sediments did not have to be remediated; and a supplemental groundwater remedy for the outlying areas at the site did not need to be implemented. In addition, to avoid any risk to human health, the ESD also called for implementing institutional controls (*i.e.*, deed restrictions) to prevent groundwater withdrawal in the areas adjacent to the site.

Negotiations with the PRPs for the performance of the remedial design (RD)/remedial action related to the selected remedy, as modified by the PDD and ESDs, resulted in 40 PRPs signing a Consent Decree on October 9, 1998, with the County of Oswego (as the "Owner Settling Defendant") representing the PRP group. The County of Oswego retained Barton & Loguidice of Syracuse, New York to conduct the RD, solicit and obtain bids to construct the cap and provide construction administration and resident engineering. The RD started on June 24, 1998 and was approved on September 30, 1999. Construction of the supplemental cap on the side slopes of the landfill, which commenced on August 9, 2000, was completed on September 12, 2001.

As was noted above, the 2001 ESD required the implementation of institutional controls to prevent the use of contaminated groundwater downgradient from the landfill. At the time of the ESD, Oswego County owned five parcels of land surrounding the landfill; a 45-acre parcel located to the east along Silk Road was acquired in October 2002. In June 2003, Oswego County granted three environmental easements regarding the landfill parcel and the six county-owned parcels surrounding the landfill portion of the property. These easements include prohibitions on the use of groundwater, any activity that would affect the integrity of the landfill cap, and any activities that would alter surface water drainage. On March 23, 2005, the Town of Volney requested an easement from Oswego County to install a waterline through the County-owned parcel on the west side of the landfill, which was one of the parcels previously subject to the environmental easements placed on the parcels adjacent to the landfill in June 2003.

Oswego County reached an agreement with NationalGrid, which owns a parcel of land located in the southwest corner of the landfill, whereby National Grid agreed to abandoned its uncontaminated well after it connected its Howard Road facility to the new Town of Volney water system. In addition, National Grid granted an easement prohibiting the further use of groundwater on the property. The easement was recorded with the Oswego County Clerk in January 2009.

## **DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES**

The ROD, as modified by the PDD and the 1997 and 2001 ESDs, called for, among other things, the capping of the landfill side slopes, groundwater extraction and treatment, on an as-needed-basis, long-term monitoring, and institutional controls to prevent the use of contaminated groundwater downgradient from the landfill. Subsequently, EPA determined that it would be beneficial to implement an institutional control to prohibit any activity that would affect the integrity of the landfill cap. Accordingly, the Owner Settling Defendant obtained an Environmental Protection Easement and Declaration of Restrictive Covenant which was filed with the Oswego County Clerk in May 2003.

This ESD serves to document this change to the remedy (implementation of an institutional control to prohibit any activity that would affect the integrity of the landfill cap), which is not considered by EPA to have fundamentally altered the remedy selected in the ROD. The remedy remains protective of human health and the environment, as documented in the second five-year review, published in August 2010.

## **SUPPORT AGENCY COMMENTS**

NYSDEC supports the modified remedy due to its environmental, public health, and technical advantages, and due to the fact that the modified remedy enhances and expands protections to public health but does not fundamentally alter the remedy selected in the RODs with respect to scope, objectives, or cost.

## **FIVE-YEAR REVIEWS**

Since hazardous substances, pollutants or contaminants remain at the Site which do not allow for unlimited use or unrestricted exposure, in accordance with 40 CFR 300.430 (f) (4) (ii), the remedies for the Site must be reviewed no less often than every five years.

Two five-year reviews have been conducted at the site.

The most recent review, completed in August 2010, concluded that the remedy currently protects human health and the environment in the short-term because the landfill has been capped, removing direct contact (*i.e.*, ingestion or dermal contact of soil) exposures to the public and ecological receptors and reducing percolation through the landfill. In addition, institutional controls are in place to protect the integrity of the implemented remedy and to prevent potential exposures to the public. Area residents and businesses are on public water, thus, reducing potential direct contact exposures. In order for the remedy to be protective in the long-term, measures need to be taken to permanently address a leachate seep that was detected during the five-year review.

### **AFFIRMATION OF STATUTORY DETERMINATIONS**

EPA and NYSDEC believe that the remedy, as modified, remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. In addition, the modified remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this Site.

### **PUBLIC PARTICIPATION ACTIVITIES**

EPA and NYSDEC are making this ESD available to the public to inform them of the change made to the remedy. Should there be any questions regarding this ESD, please contact:

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