



## Explanation of Significant Differences

# Diaz Chemical Corporation Superfund Site

Village of Holley, Orleans County, New York

EPA Region 2

March 2017

### INTRODUCTION

Under Section 117 (c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund), as amended, the Environmental Protection Agency (EPA) is required to publish an Explanation of Significant Differences (ESD) when, after issuance of a Record of Decision (ROD),<sup>1</sup> subsequent enforcement or remedial actions lead to significant, but not fundamental, changes in the selected site remedy. Sections 300.435(c)(2)(i) and 300.825(a)(2) of the National Oil and Hazardous Substances Contingency Plan (NCP) set forth the criteria for issuing an ESD and requiring that an ESD be published if the remedy is modified in a way that differs significantly in either scope, performance or cost from the remedy selected for the site.

The remedial investigation (RI)<sup>2</sup> performed by the EPA at the Diaz Chemical Corporation site identified six soil and groundwater source areas at the site. The EPA's 2012 ROD estimate is that it would cost \$13.2 million to thermally treat these source areas in-situ. Based upon the results of extensive soil and groundwater sampling conducted during the remedial design to better delineate the areas of contamination, it was determined that the contamination is much more widespread than what was originally estimated. As a result of the increased volume of contaminated soil and groundwater and the results of a treatability study performed during the remedial design, the estimated capital cost of the soil and groundwater remedy has increased to \$37 million.

This ESD serves to document the increase in the volume of contaminated soil and groundwater and the estimated cost of the selected remedy.

### SITE HISTORY, CONTAMINATION PROBLEMS AND SELECTED REMEDY

The 5-acre Diaz Chemical Corporation site was included on the National Priorities List on July 22, 2004. It is bounded on the north and east by residential parcels on Jackson Street and South Main Street. To the south and west, it is bordered by Conrail railroad tracks, and beyond that by undeveloped land and a group of buildings that are now vacant. See Figure 1.

The Diaz Chemical facility was initially developed as an industrial plant in the 1890s and was used primarily for tomato processing and cider vinegar production before being purchased by Diaz Chemical in 1974. Diaz Chemical was a manufacturer of specialty organic intermediates for the agricultural, pharmaceutical, photographic, color and dye and personal care products industries. The Diaz Chemical product line varied over the years of operation but primarily consisted of halogenated aromatic compounds and substituted benzotrifluorides.

The Diaz Chemical facility had a long history of spills, releases and discharges of various materials to the environment that dated back to about 1975.

From 1994 to 1999, Diaz Chemical conducted an RI under the oversight of the New York State Department of Environmental Conservation (NYSDEC). The RI results revealed soils and ground water on the property and nearby, contaminated with volatile organic compounds and semi-volatile organic compounds. NYSDEC issued a ROD in March 2002. Diaz Chemical installed a groundwater extraction and treatment system to contain the groundwater contamination at the facility.

An accidental air release occurred on January 5, 2002 when a reactor vessel in a process building overheated, causing its safety valve to rupture and release

<sup>1</sup> A ROD documents the EPA's remedy decision.

<sup>2</sup> An RI determines the nature and extent of contamination at a site.

approximately 75 gallons of a chemical mixture through a roof stack vent. The release consisted primarily of a mixture of steam, toluene and 2-chloro-6-fluorophenol as well as related phenolic compounds. The splash zone for the release extended northeast from the facility into the neighboring residential community. The mixture landed on homes and properties in the neighborhood immediately adjacent to the facility, and was visible as red-colored droplets on homes. Odor complaints were received from as far as approximately 12 miles from the facility. Soon after the release, people complained of acute health effects such as sore throats, headaches, eye irritation, nosebleeds and skin rashes. As a result of the release, residents voluntarily relocated from some of the homes in the neighborhood to area hotels with assistance from Diaz Chemical.

In March 2002, the State of New York obtained a court order that required Diaz Chemical to continue to fund the relocations until an appropriate environmental and health assessment was performed for the affected neighborhood. In May 2002, when Diaz Chemical sought to discontinue the relocations for ability-to-pay reasons, the New York State Law Department requested that the EPA take a removal action to assume the lead for the temporary relocations. In May 2002, the EPA, under its removal authority, assumed responsibility for the relocation expenses of the residents who remained relocated at that time. The EPA then initiated a preliminary assessment of the affected neighborhood and performed sampling of air, soil, interior surfaces and household items.

In June 2003, Diaz Chemical filed for bankruptcy and abandoned the Diaz Chemical facility, leaving behind large volumes of chemicals in drums and tanks. The EPA, under its removal authority, mobilized to the site and began providing 24-hour security at the Diaz Chemical facility to prevent public access. The EPA also began operating and maintaining the groundwater extraction and treatment system at the Diaz Chemical facility (the system operated until 2012). In addition, the EPA shipped approximately 8,600 drums and over 112,000 gallons of bulk waste from tanks and containment areas off-site for re-use and/or disposal; emptied, decontaminated, and disposed of 105 reactor vessels and 34 tanks; dismantled and removed 51,280 linear feet of facility piping; recovered approximately 800 gallons of waste within the lines; removed and recycled 767 tons of structural steel, motors, and unprepared tank and scrap steel; removed and disposed of 5,750 tons of concrete (of which 500 tons were recycled); removed and disposed of nine transformers containing polychlorinated biphenyls; removed and disposed of 175 cubic yards of lead-contaminated wood and 20 cubic yards of asbestos debris; decontaminated a warehouse; and dismantled all of the production buildings and tank containment areas,

another warehouse, and a boiler room, electrical room, laboratory, and an oil tank storage area.

On March 29, 2005, the EPA selected a remedy involving the property acquisition and permanent relocation of eight owner-occupants and two tenant families who had remained in temporary quarters since January 2002. Under that remedy, the acquired residences were to be maintained until the selection of a final remedy for the site. In 2005, with the assistance of the U.S. Army Corps of Engineers (USACE), the EPA purchased all eight houses and provided the owners with relocation assistance. In addition, the two individual tenants were assisted with relocating into new rental dwellings. Since the acquisition of the eight properties, USACE and the EPA have maintained them.

Based upon the result of field investigations conducted at the site from 2004 through 2010, on September 26, 2012, the EPA selected a remedy to address the contaminated soil and ground water. The remedy calls for the treatment of the contaminated soil and ground water source areas using electrodes that will heat the soil and ground water, causing the contaminants to evaporate and turn into vapor and steam. The vapor and steam will then be collected and treated. For contaminated ground water outside of the sources areas, the EPA will rely on natural processes that allow the contaminants to disperse, dilute and degrade to ground water cleanup levels.

The ROD also called for the demolition of on-site buildings to facilitate the installation and operation of the thermal treatment system. Following the completion of the design of the building demolition, the work was performed September–December 2015.

The results of the RI led to the conclusion that site-related contamination was not present in the surrounding residential area. Accordingly, the ROD determined that other than the continued operation and maintenance of three existing residential vapor mitigation systems,<sup>3</sup> no remedial actions are warranted at any of the residential properties. Soil vapor intrusion sampling will be performed at adjacent residences before and during the operation of the thermal treatment system to determine whether or not there are indoor air impacts due to system operations.

In order to operate the thermal treatment system, a 12-inch waterline that traversed the site was relocated from May–September 2016.

The design and implementation of the thermal treatment remedy is being performed in two phases. Phase 1 will be used to assess the optimum operating temperature. The Phase 1 design was performed September 2012–July 2016. Proposals from contractors to perform this work are currently being evaluated. It is anticipated that

<sup>3</sup> EPA performed soil vapor intrusion sampling at homes that were deemed to be potentially impacted by the underlying plume of contaminated groundwater. Although no indoor air impacts

were found, as a conservative measure, EPA installed vapor mitigation systems in three homes to ensure that indoor air quality is not impacted in the future.

implementation of Phase 1 will commence in late summer 2017.

The EPA is currently working with the Village of Holley and the Village of Holley Development Corp. to market and sell the eight EPA-owned houses.

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

The RI identified six soil and groundwater source areas at the site. As mentioned above, in the 2012 ROD, EPA estimated that it would take one year and cost \$13.2 million to thermally treat these source areas in-situ. Based upon the results of extensive soil and groundwater sampling conducted during the remedial design to better delineate the areas of contamination, it was determined that the contamination is much more widespread than what was originally estimated. As a result of the increased areal extent and volume of contaminated soil and groundwater<sup>4</sup> and the results of a treatability study performed during the remedial design, the estimated remediation time has increased to seven years and the estimated capital cost has increased to \$37 million. Figure 2 shows the areal extent of the treatment area.

Consideration was given to addressing the soil and groundwater contamination utilizing the other remedial alternatives evaluated in the ROD, such as capping, excavation or in-situ stabilization for the contaminated soil, extraction and treatment of the contaminated groundwater or the construction of a vertical barrier to contain the contaminated groundwater. The very low hydraulic conductivity and permeability of the aquifer would significantly hinder the ability to extract the contaminated groundwater, and the presence of fractured bedrock underlying the overburden would limit the ability of a vertical barrier to contain contamination, as it could likely travel under the wall and migrate beyond the system. Therefore, in-situ thermal treatment is the only viable remedial alternative to address the contaminated groundwater. While capping, excavation or in-situ stabilization for the contaminated soil would be viable alternative approaches for the soil, because the vertical heaters that would be utilized to thermally treat the groundwater transmit heat along their entire vertical length, thereby treating the overlying soil, utilizing another remedial alternative for the soil would be unnecessary.

This ESD serves to document the increase in the volume of contaminated soil and groundwater and the estimated cost of the selected remedy.

## **SUPPORT AGENCY COMMENTS**

NYSDEC supports this ESD, as the modification to the remedy significantly changes but does not fundamentally alter the remedy selected in the 2012 ROD.

## **FIVE-YEAR REVIEWS**

Because this remedy will not result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, but it will take more than five years to attain the remedial action objectives and cleanup levels, a policy review will be conducted within five years of construction completion to ensure that the remedy is, or will be, protective of human health and the environment.

## **AFFIRMATION OF STATUTORY DETERMINATIONS**

The remedy selected in the 2012 ROD remains fundamentally unaltered, and the statutory determinations made in the ROD still apply. The significant changes to the remedial action include an increase in the volume of contaminated soil and groundwater requiring treatment and a corresponding increase in the cost to implement the remedy.

The remedy will continue to be protective of human health and the environment, and it will comply with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action. The remedy remains technically feasible, cost-effective and satisfies the statutory requirements of CERCLA by providing for a remedial action that has a preference for treatment as a principal element and, therefore, permanently and significantly reduces the toxicity, mobility and volume of hazardous substances.

## **PUBLIC PARTICIPATION ACTIVITIES**

Pursuant to NCP §300.825(a)(2), this ESD will become part of the Administrative Record file for the site. The Administrative Record for the remedial decisions related to the site is available for public review at the following location:

Community Free Library  
86 Public Square  
Holley, New York 14470  
585-638-6987

The Administrative Record file and other relevant reports and documents are also available for public review online: <https://www.epa.gov/superfund/diaz-chemical> and at the

<sup>4</sup> The contaminated unsaturated (above the water table) and saturated (below the water table) soil volume increased from an

estimated 42,000 cubic yards to an estimated 127,000 cubic yards.

EPA Region 2 office at the following location:

U.S. Environmental Protection Agency  
290 Broadway, 18<sup>th</sup> Floor  
New York, New York  
(212) 637-3263

*Hours: Monday to Friday: 9:00 am – 5:00 pm*

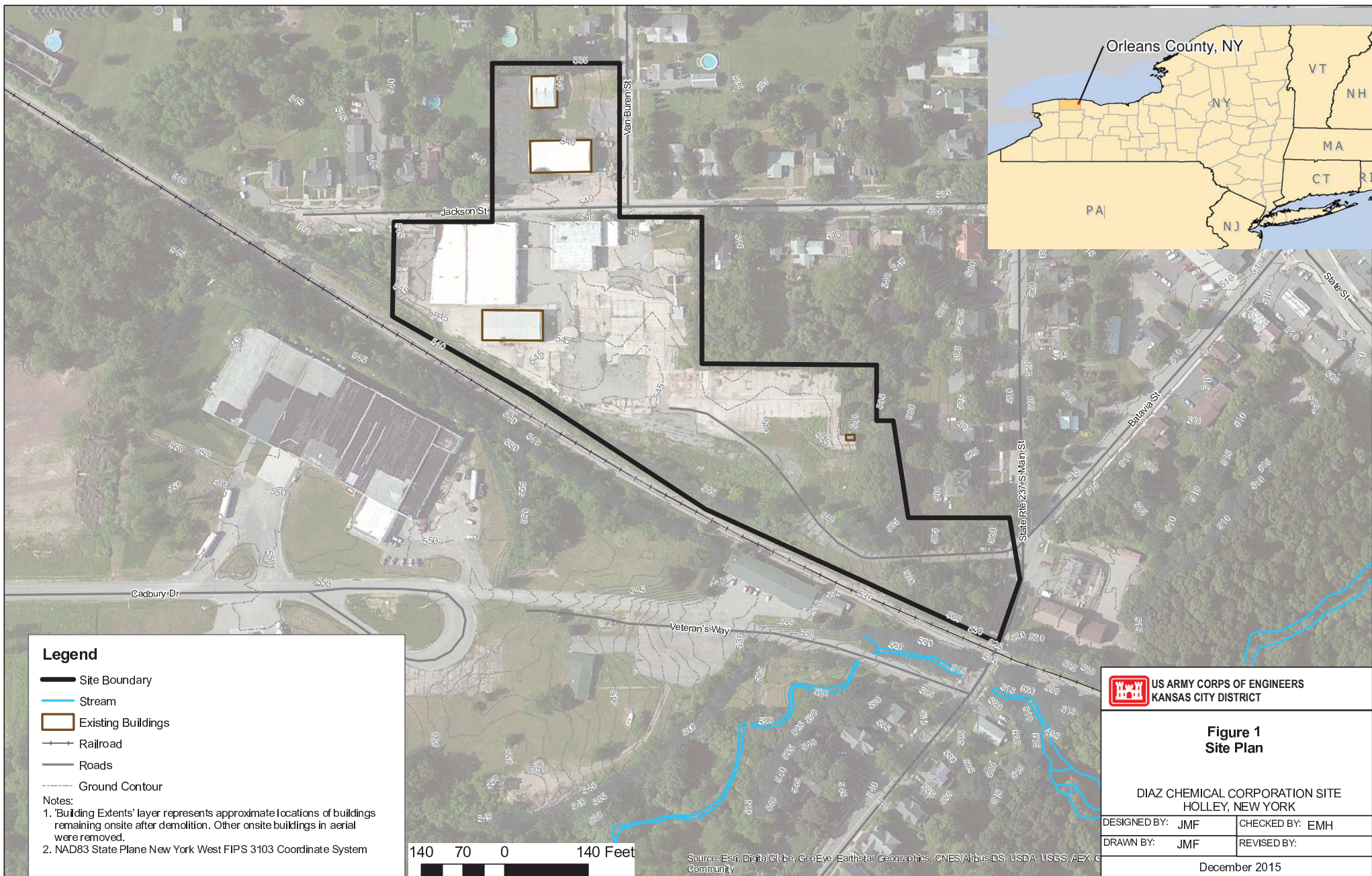
EPA and NYSDEC are making this ESD available to the public to inform them of the change made to the remedy. Should there be any questions regarding this ESD, please contact:

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With the publication of this ESD, the public participation requirements set out in §300.435(c)(2)(i) of the NCP have been met.







**Figure 2: Areal Extent of ISTR Treatment**

Each area corresponds to the following treatment depths:

**Red:** 20 to 25 ft bgs

**Blue:** 30 ft bgs

**Yellow:** 45 ft bgs

Areas are approximate

